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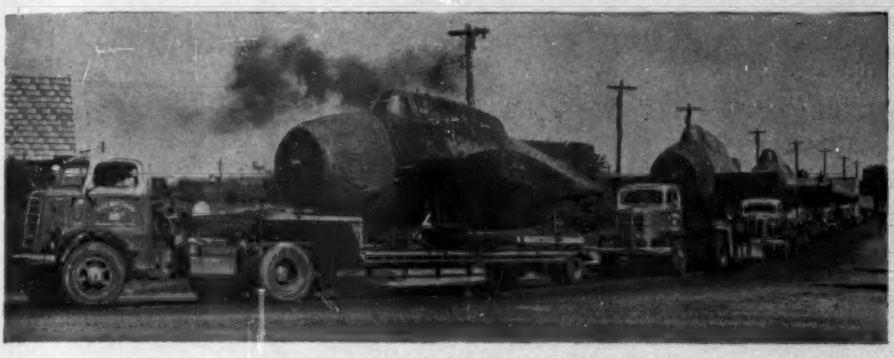

We're boxing and processing war planes, trucks, tanks and guns for Uncle Sam. We're transporting them from the roaring production lines to the airports and piers, whence huge transport planes and ships of the United Nations speed them to the global war fronts; to swift deadly action against the Axis. This is our part in the war, our contribution toward Victory.

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No. 2

AIR TRANSPORTATION

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February
1944

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JOHN F. BUDD, *Editor and Publisher*

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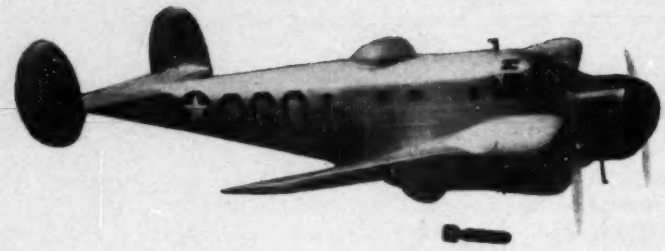
Beechcrafts at work

NUMBER 9
OF A SERIES



Did you ever see a classroom flying? Well, here's one. It is an AT-11 Beechcraft bombing trainer at work. An oil refinery, in replica, is the target for its bombs. The student crew has released those bombs squarely "on target." ★ In countless training missions like this one, American bomber crews learn the lessons that spell disaster to Axis refineries and war-vital installations of every kind. Beechcrafts are their flying classrooms. ★ This is the sort of schooling that makes Americans the World's Best Trained Airmen.

Official Photograph U. S. Army Air Forces

Northwest Airlines Unfolds Epic of Its March To Help Save Alaska

'Insuperable' Obstacles Conquered By Unprecedented Use of Air Cargo; Patterns Laid for Postwar Routes

NOT OFTEN does an airline tell a story about itself at once so packed with facts and so thrillingly interesting as the tale now unfolded by Northwest Airlines. No stranger to the readers of AIR TRANSPORTATION, *who have read of aggressive Croil Hunter, Air Cargo Personality in the September 1943 issue. Northwest here tells its biggest story to date. Readers who doubt the importance of NWA's wartime route to Alaska in the postwar picture should look again at the global air route map on Page 23 of the January* AIR TRANSPORTATION, *reread Thomas E. Lyons' prediction of last month that Fairbanks may one day be one of the great air cargo terminals of the world.*

"ALASKA is the most central place in the world of aircraft and, in the future, who holds Alaska holds the world."

THE American Army has "held." From the first assault of the Japs on Dutch Harbor in the Aleutians, it has pushed the enemy back and finally away from the continent. It has held as the late General Billy Mitchell warned Congress eight years ago that it must.

Behind the achievement is one of the most heroic stories of the war, written by men who cut and blasted their way through the desolate and wild country of northwest Canada, carrying supplies to the Alaskan garrisons through the back door of the country.

The story of this prodigious feat is one of weather so cold that men stored things in ice boxes *to keep them warm*, of the building of log cities in the wilderness from high forests the men themselves cut down, of pioneering in the most dramatic sense of the word.

Shortly after the war in the Pacific erupted, Army officials put the problem of supply up to Northwest Airlines, remembering NWA's background as a trailblazer for aviation in bitter cold areas.

With the Japanese menacing the sea route to Alaska, many supplies had to go through the Canadian forests and mountains. The territory to a large extent was unexplored. When a party of Northwest Airlines operations experts and pilots went north on a survey flight in February 1942, the problems really began to unfold.

NWA had foreseen the need for such an air route as a link in American defense months before the war and had asked the Civil Aeronautics Board for authority to pioneer it. Finally, the survey flight was made, to study the difficult terrain, to consider installation of a system for gasoline storage and pumping at every field and to analyze the need for bases through which supplies could be rushed northwestward.

Frank Judd, veteran NWA pilot, was named superintendent of operations for

[N. Y. Daily News Photo]

***FLYING FREIGHTER** of the route to Alaska comes to rest at a desolate northwest Canadian airport. It is from fields like this that the miracle air cargo job was done.*

this new Northern Division, Dale Merrick assistant superintendent, and Tom Nolan regional superintendent of cargo. On them fell the task of setting the machinery in motion.

When Judd was moved to Seattle, he was succeeded by Joseph Ohrbeck, and then Don King. The entire project today is under direction of R. L. (Lee) Smith, NWA operations manager.

Housing and work space problems increased as they moved north. Even at the station selected as the chief base for operations it was necessary to take over the government house as barracks. Facilities at another station were completely lacking. So an abandoned garage was moved intact from the center of the town to the field, and there reconditioned for use as a radio station and operations office.

Whole Sawmill Flown In

A complete sawmill, from saws to belts to massive machinery, was cut into three pieces and flown to another station. There timber from the dense forest was cut, sliced into lumber and the workmen built their own houses, some from wood they smoothed themselves and others from rough logs left as when they crashed to the ground.

In order to set up a refueling station for transport planes, a 1,200-gal. oil truck was dismantled, jammed into a plane along with portable welding units and a crew of welders and flown to a far north station where the welders buttoned it together again. It is still in use there today.

Huge steel gasoline tanks, some with a capacity up to 25,000 gals., were built, then cut into pieces and flown to the wilderness bases. Power units, road graders and other heavy equipment used on the Alcan Highway, which runs almost parallel to the air route, also were brought in by plane.

When fire destroyed the hospital at Nome in the early days of the war, with soldiers needing emergency medical treatment, the Government turned again to the men of the NWA's north route—and a complete new 24-bed hospital, from hypodermic needles to beds and X-ray machines, was flown—in two planes—from St. Louis to Nome.

Perhaps as amazing as any feat in the nation's war history concerns a giant Norwegian lumberjack who boarded a plane with only a rifle, a frying pan, food and tools and headed into the forest country. Landing fields for the transports had to be slashed out of the wilderness. The pilot carrying him circled a tiny lake near the proposed site, and brought the ship down on the water. Holding his equipment in his hands, the Norwegian opened the door and plunged into the icy water.

Alone, he felled the trees, dynamited their roots, leveled the field and 60 days later marched through the forest to tell Northwest's pilots to come in. The field was ready. Pilots brought the ships down. Northwest, step by step, they flew, with

supplies for the soldiers who were holding Alaska.

Weather brought problems beyond belief. The mercury slipped down to 40 below and stayed there, day after day, and then to 70 below and lower.

Ground crews, working on engines and parts, worked only a few minutes and then had to warm themselves in their barracks. Bare hands, at delicate work, could stand the icy winds and silent cold for only 30 seconds at a time. Rubber hose shattered into pieces like glass. Fingers quivering with cold tried to fix a nut to a bolt and succeeded—after one hour. Three men had to work in shifts to change one spark plug. Workers wore scarves over their mouths to keep lungs from freezing. Engines had to be kept running for fear that, once shut off, they could not be started again.

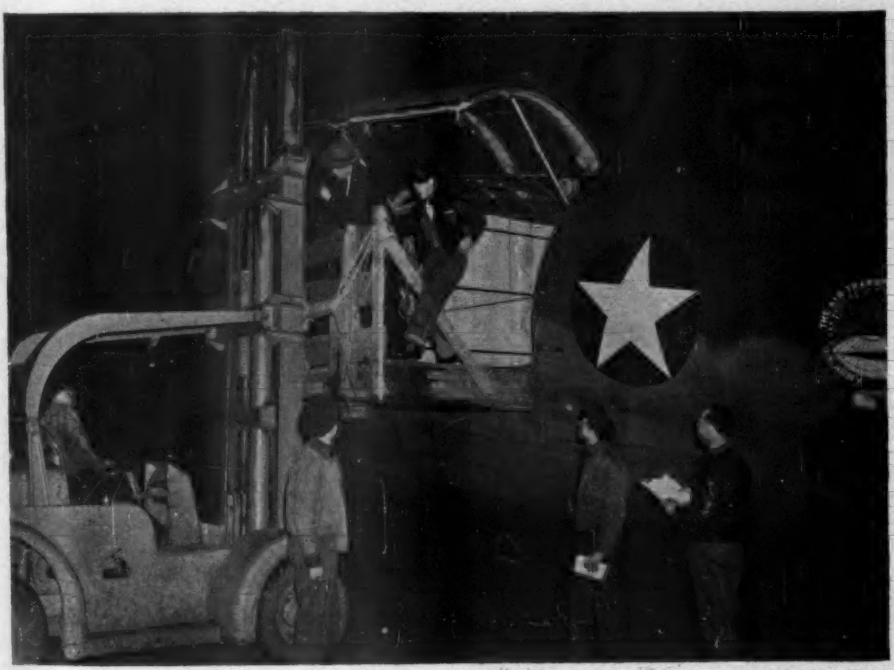
But the work went on.

When the thaws came in the spring, the crusted earth, hardened by snow and constant wind, softened and men sank to their knees in the mud. Steel landing mats—thousands of square feet—had to be flown in and laid down.

Trail Blazed for Tomorrow

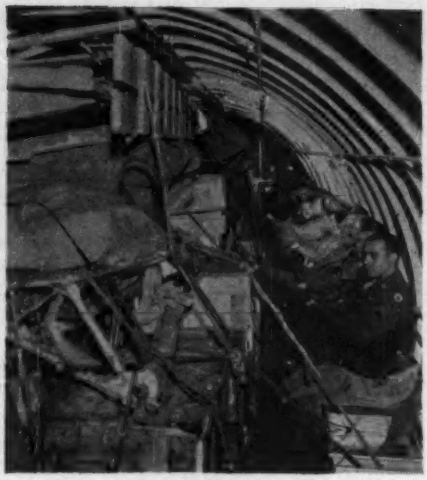
If the heroic tasks made the trailblazing job more difficult, at least it provided excellent opportunity for experiment. Northwest Airlines experts flew into the isolated stations, studied the problems of cold-weather flying and worked out the answers. Special equipment was developed to circumvent the cold.

In the peculiar conditions of this north route, pilots received the training which would prepare them for any kind of flying in any kind of conditions over the globe. In uncomfortable positions produced by the jammed loads of the planes, pilots sat at the controls for as long as 60 hours at a stretch during the dramatic push that followed the Jap bombing of Dutch Harbor. (*Continued on next page*)



New York News Photo

***THAT CRATE IN THE DOOR** of this Alaska-bound cargoliner, working for the U. S. Army, weighs a mere 1,755 lbs. Note ultramodern loading equipment already long in use at even these remote bases.*



[N. Y. Daily News Photo]

***FREIGHT FLIES** first class on this line, passengers take what's left over in the way of space and comfort.*

Sometimes they slept for an hour or two and then moved on. They slept in sleeping bags in shacks along the route, arriving in the night and leaving again before dawn. Up from the Twin Cities, through northwestern Canada and on to the bases where American soldiers were "holding," the transports carried the vital supplies.

Since it was clear that a plane grounded in the wilderness of northwest Canada and Alaska would be even harder to locate than one on the ocean, Northwest Airlines conducted tests to determine what materials would be needed to enable a person to survive for days in the woods.

Extensive research finally produced a compact emergency box, fastened to runners so it could be used as a sled and containing essential camping equipment, dehydrated food, vitamin pills, first aid equipment, snowshoes, axes and even mosquito netting.

Thus, along the new route to Alaska's back door, literally carved out of the forbidding forests, Northwest Airlines pilots and groundcrews fought the most vicious weather conditions of any war theater and brought in guns, ammunition, bombs, dynamite, caterpillars, road graders, oil, food, cement, steel storage tanks, pipe, trucks, prefabricated houses, nose hangars, 7,700-lb. generators, and the precious cargo of wounded fighters from the combat zones.

The immense undertaking, an unparalleled test of men, equipment and ingenuity, made it possible for the American Army to hold, as General Mitchell had cautioned it must, and also gave Northwest Airlines an opportunity to further its pioneering of the north country over which commercial planes in peacetime undoubtedly must fly in the broadening of air service to a new world brought closer together by the speed of aviation.

The last enemy position has been shattered in the Aleutians. Alaska, the land which General Mitchell warned would become the "Achilles' heel" of American defense if it were not properly armed, *has* been properly armed, thanks to the conquering spirit of the north country's air pioneers.

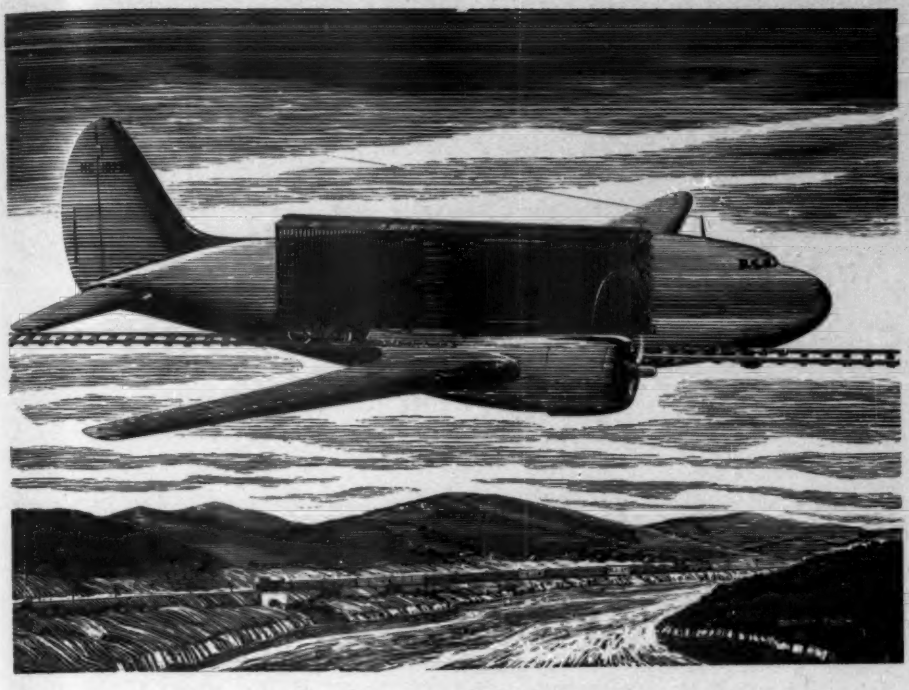
China Waits Giant Cargoplanes As Saviors

From faraway Chungking this month came word, from no less a figure than Lieut. Gen. Joseph W. Stilwell, that cargo aircraft may well be playing their greatest role of the war in the Far Eastern theater very soon.

As reported to the New York *Times* in a dispatch from Drama Critic-turned-War Correspondent Brooks Atkinson, General Stilwell announced that the "largest and newest cargo carriers available" would soon be operating to China to supply a vastly extended offensive on Japan from the west.

Instead of the DC-3's which have been generally understood to have borne the brunt of air transportation from India into China, General Stilwell hopes, said Atkinson, to have planes of such size and range that they can carry supplies direct from the ports of India into China proper. Airfields with extra-long runways are being built in China as termini for the big new planes, the dispatch said.

Already, of course, Air Transport Command planes have vastly increased the load they were carrying when the Burma Road first fell to the Japs and put the whole job of supplying China up to air cargo. Today more tonnage moves to China by air, it's said, than ever traveled the Burma Road in its heyday.



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Middle America Looks To Big Postwar Expansion Of Already Lusty Air System

A Fresh New Look at the World's No. 1 Flying-Freight Area

By CHARLES MORROW WILSON

Author of

"Ambassadors in White" *"Central America"*
"Tree & Test Tubes; The Story of Rubber"

A MINING engineer appeared at an airport in Middle America just as a cargo plane was warming up for the takeoff to a mining camp. He asked if he might go along. "O. K.", said the pilot. The passenger clambered aboard among a profusion of wooden cases, sat down on one of them, and kept a tight hold as the plane rose into the air.

The trip was bumpy, but it was short, and the plane soon banked steeply toward a tiny landing field between the jagged mountains, while the terrified passenger closed his eyes. The pilot made a perfect three-point landing. To the limp, perspiring engineer he said nonchalantly: "Well, there's another 3,000 lb. of dynamite for this dump. Move off that case, will you, so I can get it off the ship?" The mining man fainted.*

Many other stories, generally less harrowing but equally true and equally amazing, can be told of the things being done in air transportation in Middle America.

While most of the talk about air cargo in the U. S. is either in the future tense or wrapped in military secrecy, in the less industrialized countries immediately south of us, air cargo is an accomplished fact, well beyond the realm of theory. They are ahead of us—and it wasn't long ago that they were far behind, in the matter of getting goods to market.

The transition from mule back to airplanes has made astonishing records in Middle America. One of the lines alone, TACA (Transportes Aereos Centro-Americanos), handled more than 20,000,000 lb. of cargo† in 1942, about 65,000 passengers, and hundreds of tons of mail. Air freight is the chief form of transport for the chicle industry in Guatemala—one of the leading world sources for the product.

Planes in Middle America haul dynamite and livestock, mining machinery and butter, mahogany logs and eggs, race horses and beer. A recently returned traveler from Middle America tells of natives carrying live chickens and produce in their arms as they board the planes for market.

HOW does it happen that in these countries, primarily agricultural, air cargo has grown so much faster than in the highly industrialized U. S.? The very fact that the U. S. is already highly developed industrially provides the answer. Here we have the world's finest railroads and highways, and millions of trucks and automobiles. Transport by road and rail has been easy and inexpensive.

* The source for this story is the author's *Central America*, published by Henry Holt, New York.

† Almost as much as the total express tonnage carried by all U. S. domestic airlines that year. Score for all U. S. domestic air express in 1943: some 28,000,000 lbs.

Photo by Iris Woolcock

NO LAGUARDIA FIELD ***is this Middle American airfield at Golfito in southwest Costa Rica where a cargoliner is shown landing. In this land of few railroads and fewer highways, air cargo reigns supreme.***

Middle America, on the other hand, has only lately begun to build modern highways and railroads. The great Pan American Highway, linking the U. S. with South America is being rushed to completion. Other roads are planning. But progress has been painfully slow, and most surface travel between the countries is still by ship. Impenetrable jungles, rough terrain, swampy river basins and the tropical climate have exacted almost superhuman effort from those who have pushed rails and roads across the land.

The coming of air freight not only speeded up the transportation that formerly depended for the most part on mules and human portage; it also became a major means of bringing that region's vast resources out into the open from places that were virtually inaccessible before.

Two large gold mines in Nicaragua depend entirely on air transportation, which carries to and from them everything from gasoline and cheese to gold ore. Air cargo has been a primary factor in putting gold at the top of the list of Nicaraguan exports since 1939. In 1930, gold accounted for only five per cent of the country's total value of exports.

In Costa Rica and Honduras airline mileage already exceeds the combined highway and railroad mileage, and in all but three of the other Middle American countries, it far exceeds the railroad mileage alone.

REGULAR air freight transportation began in Middle America a little more than 12 years ago. In 1931, Dr. Thomas B. Pounds, an American optician living in Honduras, after failing several times to establish a passenger airline, was having one more go at it. This time it was the Transportes Aereos Hondurenos, which consisted of one five-passenger Stinson, no maintenance facilities, and no pilot.

Dr. Pounds went to Mexico, where he engaged Lowell Yerex, barnstorming former World War I pilot from New Zealand, and James E. Woodburn, an American. The Stinson carried passengers and mail for several months, but the enterprise was far from profitable. Dr. Pounds found it impossible to take in enough money to pay his pilots and to keep the plane in repair (though Yerex, who was a bit of a mechanic, managed somehow most of the time).

Before long, Yerex and Woodburn took over the plane in lieu of back pay, and formed TACA, early in 1932. But mail and passenger service still didn't pay. Woodburn gave it up as a bad job, and Yerex bought out his interest in the Stinson. Then Yerex conceived the idea of trying freight.

He did, and the demand was tremendous. An income of $3,600 from the first month's operations indicated to him that here was something that cried for development. And as the one-man, one-plane air-

line ranged over Honduras, Yerex sought new ways to build up the business.

Before a year had passed, Yerex bought three more Stinsons, hired pilots, and set up a well-ordered maintenance station at Tegucigalpa. By the end of 1935, TACA had branched out beyond Honduras and acquired a tottering airline in Guatemala and two in Nicaragua. TACA was on a solid foundation.

Today, the company serves more than 200 airports in Honduras, British Honduras, El Salvador, Nicaragua, Costa Rica, and Panama. It operates 34 radio stations. TACA's 36 cargo planes make regular flights over more than 7,000 miles of air routes in Middle America, with headquarters at Tegucigalpa and at San Jose, Costa Rica. It claims the distinction of being the largest non-military air freight carrier in the world and there is no reason to dispute the claim.

AIR cargo's vital place in Guatemala's chicle industry is an outstanding example of the progress the airplane has brought to Middle America.

Chicle, like rubber, is a sap crop, basic ingredient of chewing gum. Though it has other important uses—as an adhesive, an insulating material and in certain plastics—the greatest demand still comes from America's No. 1 jaw exerciser. To satisfy gum-chewing citizens, the U. S. imports about 20,000,000 lb. of chicle a year normally, a great portion of it from the Peten district of Guatemala.

Peten is wild jungle land for the most part, thickly blanketed with vegetation. The trees are in the wilderness, extremely difficult of access except by airplane. Most of the harvest is brought by muleback to 10 small airfields deep within the jungle, flown to the coast, and loaded on ship for export.

Before air cargo came along, it used to take a week to carry chicle through the swamps and jungles of Peten to the inland loading point at Flores. Today the same trip takes about 20 minutes by plane. From Flores a single plane hauls six tons of chicle a day in three trips to Puerto Barrios on the Caribbean sea coast; formerly, it took three pack trains of 20 mules each and five weeks of travel time to carry that same load. Many of the Indians working the chicle trees in Peten have never seen a train or an automobile. Yet, flying is a common, everyday activity to them.

TACA held the franchise for the Peten chicle run from its inception in 1935 until about two years ago, when it was given to Aerovias de Guatemala, a small subsidiary of Pan American Airways managed by Alfred Denby. In its first year of chicle transport, TACA carried 1,350,000 lb. from Peten to Puerto Barrios. By the time the franchise was turned over to ANG, the cargo had grown to as much as 1,000,000 lb. a month.

IN the early days TACA depended almost exclusively on the old Ford trimotors. Fourteen of them are still in service. Slow and clumsy according to present-day standards, they continue to do a dependable job day in and day out in Middle America. Rugged and adaptable, they are ideally suited to conditions there.

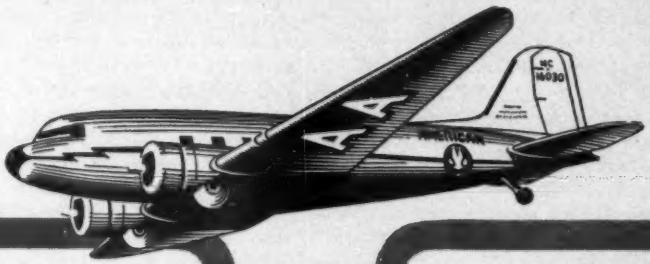
In addition to the Fords, TACA has two Lockheed 14's, one Lockheed 12, three two-motor *Condors*, seven Bellancas, five Travelairs, one Hamilton, one Lockheed *Vega*, one Stinson *Gullwing*, and—a recent acquisition—a Burnelli UB-14 *Flying Wing* [*see Page 17, AIR TRANSPORTATION, December, 1943*]. Most of the planes are now equipped with roll-top doors to make landing easy. The flooring is reinforced to support the heavy mining machinery, tractors, and similar freight that TACA carries regularly.

The *Flying Wing* has characteristics that make it particularly adaptable to the job requirements in Middle America. Some of the loads, such as refrigerators and mining machinery, are bulky and heavy. Lifting power is a primary need in the planes that carry them. In the *Flying Wing* the fuselage is actually part of the wing structure and its underside lifts 25 to 35 per cent of the weight. The one TACA has put into service was formerly a passenger plane. Refitted for cargo, it can handle a load up to 18 tons, equal to the capacity of two large trucks.

TACA is now part of a group incorporated as Inter-American Airways, a holding company headed by Yerex, which includes British West Indian Airways—serving the Dominican Republic and Brit-

American Airlines Announces...

2 INTERNATIONAL AIR EXPRESS SERVICES TO MONTERREY AND MEXICO CITY



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ish possessions in the Caribbean—and Aerovias Brasil.

WHILE air cargo really began its climb in Middle America with Yerex and TACA in 1932, Pan American Airways at that time already had been carrying passengers and mail for five years between Key West and Cuba and the Panama Canal Zone. Pan American, too, has made long strides since it began what was in 1927 a daring venture [*see Page 40, AIR TRANSPORTATION, January*]. Passengers account for 80 per cent of the weight carried by Pan American, and 60 to 65 per cent of its revenue, but its cargo total is big, nevertheless.

Most of Pan American's planes fly between points in the U. S. and Middle and South America, as compared with TACA's local operations. Pan American and its subsidiaries now maintain some 17,000 to 18,000 route miles of airlines in the Caribbean area.

Last June the company inaugurated a fast *Stratoclipper* service between New Orleans and Guatemala and the Canal Zone. The trip between Guatemala and New Orleans, which takes six days by rail via Mexico, requires less than six hours by plane. Pan Am's affiliate, Panagra, operates, of course, in South America and between South and Middle America.

Pan Am began its cargo operations carrying chicks in 1929, to supply fresh fowl for South America's tables. Two years later, it went into general express and cargo service. Between April, 1931, when it started, and the end of the same year, the company carried 4,075 lb. of express. In 1942 it carried 4,755,824 lb., almost a thousandfold increase over the 1931 rate. With its affiliates, the Pan American system handled 49,345,000 lb. of cargo in 1943.

William A. M. Burden, special aviation assistant to the Secretary of Commerce, in his book, *Struggle for Airways in Latin America,** the most authoritative and exhaustive work on the subject, says that air cargo in Latin America is three times as great as that of the U. S. in total tonnage. Measured by ton-miles, they are about equal.

* Published by Council on Foreign Relations, Inc., New York, 1943.

AIR cargo, obviously, has been a tremendous factor in developing Middle America's economy. What it will amount to in the postwar period depends on several factors. Most weighty of them will be the extent to which Americans recognize that the U. S. and Middle America are interdependent. The U. S. needs the tropical products raised there, and Middle America needs our manufactured goods.

Before the war, we imported about 94 per cent of our essential tropical supplies from the Far and Middle East, and the remainder from the American tropics. Japan's seizure of the old sources emphasized the folly of that policy.

It isn't likely that the U. S. will fail to profit from that experience. Not only was it economic folly to disregard Middle America's agricultural potentialities and go halfway around the world for the products which that nearby region can raise in superabundance; it was also political folly, for the Axis made it its business to satisfy Latin America's need for foreign trade. The economic wedges the Axis thrust into the Western Hemisphere in the 1930's were threatening to establish a strong political foothold when the war broke out.

The war's demands have necessitated an extensive program of cultivation of rubber, quinine, rope fiber and other strategic crops in Middle America, undertaken by the governments of that region in cooperation with U. S. planters and agencies of the U. S. Government. Continuance of that program after the war would probably demand still further expansion of air cargo. Such continuance seems more than likely, since harvests of many of the experimental crops have proved the American tropics at least as fertile as Eastern lands, and in the case of some crops even more so.

There is also, of course, the factor of increased road building, which could tend to discourage air cargo. An extensive network of modern highways might possibly make it unprofitable to use planes for the comparatively short hauls in Middle American traffic. But before a construction program of that magnitude is undertaken, its cost also will have to enter into the calculations. And the cost in money and labor of hacking through some of Middle America's mountainous and thickly-wooded

territories would be prodigious. TACA has built small one-way airfields in mining country at a cost of less than $5,000 each. Only about three miles of roadway could be built in similar areas with that amount.

Probably the deciding factor will be the increased trade with the U. S. Crops are being expanded. The contributions to the United Nations arsenal have built up credit and their cash reserves, which will stimulate postwar trade with the U. S. More trade means more and better transport facilities.

It will be several decades at least before surface transportation between the America's is largely displaced by direct air communication. Cargo planes sufficiently "super" to compete with the low cost and great carrying capacity of surface vehicles and vessels are not yet in sight. But that direct air connections are bound to grow enormously with increased trade is a certain prospect. The trend is already apparent in the inauguration on Sept. 13, 1943, of the first exclusively air freight service between the U. S. and Guatemala. It was opened by the flight of a DC-2 of Denby's Aerovias de Guatemala to New Orleans with a 3000-lb. load of scrap rubber collected and donated by the Guatemalan government.

Anticipating a closer inter-American relationship after the war and recognizing the great part the airplane will play in that relationship, the U. S. Government is already planning for it. Several agencies are sponsoring a training program, financed by Defense Supplies Corp., for developing pilots, mechanics, and administrative engineers for Latin America. More than 500 young Latin American men already have been enrolled in the two years since the program started. The purpose is twofold: to meet the immediate problem of transporting strategic war materials from Latin America's fields and mines and to train men for the important part they will have in the future development of Latin America's local transport.

Whether it mushrooms or whether it develops less speedily than its more ardent prophets predict, air cargo, like the automobile and the mechanical refrigerator, is here to stay. And Middle America, sharing in the growth, will profit in the future from its pioneering efforts in the field.

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WORLD'S OLDEST OPERATING TRANSPORTATION AIRLINE

Air Cargo Offers New Routes to Leadership For Postwar Merchandisers

American Airlines' Littlewood Charts Economies To Be Gained, Advantages Sure To Be Offered, After Victory

By WILLIAM LITTLEWOOD
Vice President—Engineering, American Airlines, Inc.

THE world in which we will live after the war will be brought together more closely, geographically, commercially and culturally, than the states of this Union were 50 years ago. The speed of air transportation has already reduced the world in size to the 60 hours required to traverse its longest distance.

People and products can go from San Francisco to Brisbane in 35 hours instead of the former 21 days. Domestic air transportation in these United States has shrunk our country to the size of Pennsylvania and international air transportation will shrink the world to the size of the Mississippi Valley, in terms of the time required to move persons and goods by air.

No form of transportation has immediately or completely superseded another. We still walk—and would be better for walking more. Horses and other beasts of burden are still used extensively. Ocean, river, lake and canal traffic are still common. Rail and motor transportation are being used to their utmost capacity. The world undoubtedly needs more and better transportation and communication of *all* kinds to perform the different services to which each is pecularily suited.

The introduction and development of each new form of transportation for the carriage of people and goods has wrought tremendous changes in the social, political and economic life of that section of the world affected. Aviation, the infant of transportation—and it's a lusty one—is affecting all the world. In its flexibility, the airplane has no equal. It needs no ocean, no river, no rails, no road on which to travel. It uses the air — and air *is* everywhere. Since it can ignore land-water boundaries, trans-shipping—with its handling costs and wear and tear—will be obviated. Since it can reach remote places where modern surface transport facilities do not exist, its greater speed becomes universally applicable to all places on the face of the earth where commodities must go.

Air transportation of cargo is too new to be a known quantity in commerce. The airlines of this country, and those abroad, obtained their prewar growth primarily as passenger carriers and made little provision for, and little research into the possibilities of air carriage of commodities. The value of its speed and flexibility in the air freight field has been tested only by war, but the results of that still continuing test are proving that *air cargo will take a major role in the postwar carriage of goods.* It is, therefore, not too early for us to translate what we have learned into terms of peacetime commerce—to study the logical effects that air transport will have on channels of distribution on

methods of selling and advertising, on shipping habits.

Even in prewar days airplanes were used at one time or another to move almost every commodity used by man. Mining machinery was carried by air to points inaccessible to surface transportation. Oil companies shipped supplies into jungle-bound airports. Perishable food products were moved in hours to remote points where weeks would have been required in surface transportation. Drugs and dresses, coats and cut flowers, hardware and repair parts and millinery and machinery all reached their users by air.

Future air cargo will not have to find new commodities to move, but it will have to *prove its economic usefulness to each and every commodity that it hopes to carry.* It will divert traffic from surface transportation only to the extent that it can add economic or other real values because of its increased speed and flexibility. Like every other new facility for transport, it must seek the level of its greatest usefulness and it will absorb traffic and create traffic in the fields that it can serve best. Motor vehicles, because they were more useful for short distances, took much short-haul traffic from the railroads. They also created other traffic which, in some instances, has been ultimately turned over to the longer haul of the railroads.

The airplane will not only take a portion of the long-haul traffic of the railroads but, as did the railroads, will constantly extend the length of the average haul by the creation of new, long-haul traffic. In my opinion, the airplane will not take the place of rail or motor, or water carriers, but will divert a large portion of their business that they have retained only because of the lack of faster transportation, and, since the advent of the airlines, by virtue of their lower rates. Wherever the speed and flexibility of flight can make money for shipper or for consignee it will replace slower modes of transport, for, as Mr. Welch Pogue, Chairman of the Civil Aeronautics Board, has said, *"Services that make money have a habit of becoming popular."*

After the war air cargo rates will decrease. Growth in the volume of air express made it possible for domestic airlines to reduce rates 12 per cent in July, 1943. Yet, in this country no commercial airline has had the advantage of using

The Author

William Littlewood

LITTLEWOOD CHECKLIST OF AIR CARGO OPPORTUNITIES IN MERCHANDISING

Packing costs will be reduced.

Companies that have been limited in the markets they could economically reach by slower surface transportation will reach out into new markets.

New markets will be created. Example: Fruits and vegetables now always picked green to ripen en route will move overnight, already tree- or garden-ripened.

. . . saving in the capital needed to do business.

Air transportation will make it possible to speed up turnover, and greater turnover means more profits on more transactions.

. . . less risk of loss from style obsolescence, price instability, and seasonability.

. . . the need for wholesalers and distribution centers will be diminished.

. . . the need for the warehouse will be diminished.

Very probably, insurance costs will come down.

. . . lower opportunity for pilferage en route.

in its commercial operations planes designed specifically for the carriage of cargo. When such planes do become available for commercial operations, and when technical improvements further reduce ton-mile costs, air carriers will be eager and quick to lower rates in order to attract that volume which will ultimately make it possible for them to make further reductions.

The early postwar period will undoubtedly see a substantial reduction in air express rates, from the present level of approximately 72 cents per ton mile. Later, when there has been time to engineer and produce planes designed specifically for the carriage of air cargo, costs and rates will drop further. Who can say what will be the ultimate level that can be reached?

Packaging Will Cost Less

At the same time that rates come down other changes will come about because of industry's determination to take advantage of and receive the values of air transportation. Packing methods will change and *packing costs will be reduced.* In international trade today, *packing sometimes increases surface shipping costs from 10 to 20 per cent* because of the necessity for using heavy crates that can withstand the abuse of transshipment and of loading, unloading and carriage, and because of high ocean freight rates on the basis of measurement or weight, whichever is greater.

Internal revenue taxes and customs duties in many countries, being based on the landed cost of the shipment, also take additional toll from increased packing costs and the other increases that they bring about. Since carriage by air requires less handling and less rough treatment en route, lighter packing will be possible in both domestic and foreign air commerce. This will be particularly true in international trade.

As has been said, the obvious advantages of air transportation are unprecedented speed and flexibility. While the speed of the freight train has increased from 11½ miles per hour in 1921 to 16½ miles per hour in 1941, it still takes about three days for L.C.L. shipments (in normal times) to go from New York to Chicago, and about 8 or 9 days from Philadelphia to San Francisco. With rail express the times are 18 hours and 84 hours, respectively. These elapsed times are to be compared with air cargo times of less than five and 20 hours respectively, with much greater speeds to come in the postwar future.

In the international field, time contrasts are even sharper, and commodities that can be shipped by boat at one-half cent a ton mile will go by air at a much higher rate because air cargo will move at approximately 25 times the speed of ship transport. When we compare ton-mile costs, we must always remember that air *distances* between two points are much shorter than surface distances; the distance saved by air over rail averaging about 15 per cent.

Our present methods of marketing and distribution will feel the specific effects of air cargo in many ways. *The companies that have been limited in the markets that they could economically reach by slower surface transportation will reach out into new markets.* Others that may be less progressive and do not care to expand will be forced to do so in order to survive, because air transport will make it possible for remote competitors to invade the nearby markets upon which companies of a local nature have always depended for their volume.

New markets will be created. Fruits and vegetables which have always been picked green, to ripen en route, will move overnight to market centers, and consumers who for the first time are able to enjoy new flavor and new freshness will continue to demand that these products move beyond the limits practicable with slower transportation. In the style market, too, expansion will mean more sales and therefore more traffic.

Less Working Capital Needed

With faster transportation will come *saving in the capital needed to do business.* A tremendous amount of capital formerly locked up in inventories of retailers and jobbers will be released when the speed of air transport makes it possible to carry smaller stocks because they can be replenished in hours instead of days or weeks. Perhaps some manufacturers will resist this trend towards hand-to-mouth buying, but once the retailer sees his way clear to take advantage of it the suppliers who fall in line with his desire to do business on lower inventories and with less investment in storage space will win the

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first lap in the race with competition. Furthermore, there will no longer be today's great waste of capital invested in goods in transit. Even the most elementary student of business knows that goods in transit are idle goods that are earning no profit through sale, and if a national organization that today has an average of a quarter of a million dollars worth of merchandise in transit at all times can use the greater speed of air transportation to cut that average to $50,000, the saving is quite obvious.

Turnover Will Speed Up

A collateral of saving in capital is turnover. *Air transportation will make it possible to speed up turnover,* and greater turnover means more profits on more transactions. Nor will profits increase merely because of more transactions; expenses will be lowered because the outlay per unit of product for cost of capital will be less, and because rentals, insurance costs, handling costs, and even salaries of administrative officials and overhead generally will be less on each unit sold.

There will be *less risk of loss from style obsolescence, price instability, and seasonability* when air transportation speeds the movement of merchandise. When stores carry less stock they become decreasingly vulnerable to changes in style and to whims of public fancy; with less money tied up in inventories, manufacturers will be more ready to modify their products to suit changing demands. Many retailers will no longer find it necessary to place orders for merchandise weeks in advance and blind to the actual need they might be experiencing at the time for which they have been ordering. This will make it possible for the retailer to reduce his price risk and his style or deterioration risk.

In the high priced style field, most "creations" in hats, shoes and accessories, as well as dresses and coats, originate in style centers like New York. Topnotch stores in large cities are given exclusive offerings for a few weeks before they are copied and moved down into the medium and low priced shops. It makes a lot of difference, even in Dallas or Kansas City if fewer days of this precious time are used in transportation rather than in actually selling the product.

Price Changes Lose Terror

Losses from price instability can be cut by use of air. In certain perishable fields, shippers frequently start carload movements towards distant market areas before the commodity is sold, expecting to take advantage of an opportunity to divert the shipment to a market where a price advantage can be gained. These "rollers" may be sold on an advantageous market or they may move slowly across the country without the anticipated profit opportunity and end up on the opposite coast after deterioration has taken such a toll that substantial loss replaces any possible opportunity for profit. Air transportation will make it possible for much of this traffic to be held at the point of production until a market rise at a particular point dictates that it be placed there by air in a matter of hours, in fresh condition, and ready for sale at top market prices.

Air cargo transportation may bring about important changes for the wholesaler and the intermediate distribution center. *To the extent that more shipments are made direct from manufacturer to retailer, by air, and to the extent that more manufacturers will sell direct to consumers, the need for wholesalers and distribution centers will be diminished.*

Warehousing Will Change

Public warehousing will unquestionably be affected. Warehouses are, in many ways, a part of the transportation system of the country, and the need for them has arisen to some extent out of the need of distributors to overcome the time lag between the depletion of the dealers' stock and receipt of replacement from the factory. *As air transportation makes it possible for wholesalers and retailers to replenish their stocks more quickly, the need for the warehouse will be diminished.*

The value of air transportation increases in almost direct ratio with the distance between the points served, and it therefore follows that the international field is one of its broadest opportunities, because of the greater distances and the longer times en route. In international trade, there is an even greater spread between the price that the producer gets for his product and the price the consumer

in the foreign country pays, than there is in the domestic field. This "spread" is enhanced because of several factors peculiar to international trade. These include, in surface transportation, the greater cost of export packing, the expenses of transshipment at ports, consular fees, marine insurance, export and import duties, port charges, and the cost of financing the shipment for a longer time en route.

Lower Interest Costs

Many of these costs may be cut materially by air transportation, and some eliminated entirely. With air freight moving at a speed approximately 25 times that of water transportation, interest charges on inventories in transit will be greatly reduced. The greater cost for export packing, as has been previously pointed out, will be eliminated. Since airplanes can leave from interior points and land at interior points, all of the expensive features of transshipment at land-water borders will be eliminated. Very probably, insurance costs will come down because goods in transit a shorter time are subjected to less opportunity for deterioration, because less handling and rehandling lowers the opportunity for pilferage, and because wear and tear and breakage are diminished when shipments are carried by air instead of by rail and steamship.

In the sound economic development of domestic short-haul or local service, aviation will have a decentralizing influence. This will be merely an extension of the trend already noted in the development of the automobile. The suburban radius of cities and towns will expand. A definite back-to-the-farm movement has already been predicted for the postwar era. And in this picture the airplane and eventually other forms of flying machines will play an important part.

With decentralization of people and industry will go decentralization of merchandising—much more direct producer to consumer business. Aviation will be both the spur to accelerate this trend and the tool to make it feasible. As part of this change will come the development of many more small towns, and great emphasis must be placed on small town merchandising.

Almost all companies are engaged to some degree in postwar planning. Every company which, as a purchaser or a vendor, is concerned with products which might possibly benefit from movement by air should include that possibility as a consideration in its postwar planning. It should face the likelihood that its competitors will take similar steps and should therefore plan to stimulate trade associations with which it is identified to make similar studies. A study shou'd be made of the far-flung markets that air transportation will bring to its door, and it should analyze the air transport suitability of all of the products, either manufactured goods or raw materials, with which it is concerned, and the possibility of making product changes which will enhance that suitability.

Be ready when the war is over—for air cargo's era in peacetime commerce will develop rapidly when our energies can be released to build planes for commercial air transportation. Alert business men will recognize that much of their future is in the air.

William Littlewood, vice president of Engineering, American Airlines Inc., since 1937, was born Oct. 21, 1898, in New York City. As a student at Cornell University he was awarded the Sibley prize, symbol of the highest scholastic rating in the school, for two years straight running. During his junior year, he was the only engineering student, other than a senior, to be elected to membership in Tau Beta Pi, national engineering honorary society.

Following his graduation from Cornell in 1920, Mr. Littlewood was employed first by a tool manufacturing concern and later with Ingersoll-Rand. In that year he turned from machine engineering to aviation, where he has remained ever since. He joined the engineering department of American Airways, predecessor company of American Airlines, in 1930; was made chief engineer in 1933; and vice president in charge of engineering in 1937.

Former German Flier Develops Steel to Give Us Edge in War Today

AT Canton, Ohio, recently, 46-year-old, German World War I veteran, Martin Fleischmann stood quietly in the background watching a huge press forging red-hot steel ingots into shape at The Timken Roller Bearing Company's plant. The steel looked like any other chunk of steel, but it is giving German military strategists, their air-force fliers, and anti-aircraft gunners a headache.

Paradoxically, the German air force in the last war provided the inspiration and is therefore partly responsible for the development of this steel. Twenty-six years ago Martin Fleischmann volunteered for training in the German air corps and served as pilot for observation flights in France. The planes that Fleischmann piloted depended upon altitude for safety. They flew at 18,000 feet, above French, British and American anti-aircraft fire. Allied pursuit planes didn't reach that altitude until toward the end of the war.

Because of his interest in high-altitude flying and airplane engine design, he entered the University of Munich after the war to study mechanical engineering. The study of the structure of metals was a relatively new science, then, and it fascinated Fleischmann.

Meanwhile, German money went into a tailspin. At its lowest point one thousand billion marks were worth 25 American cents.

American Chemist of World War II

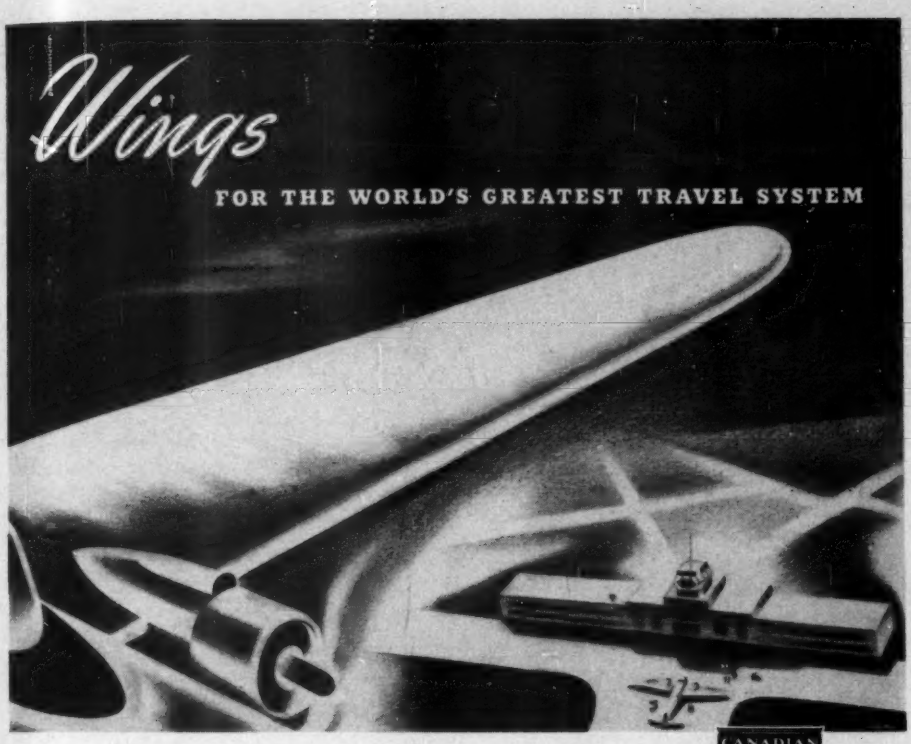
German Flier of World War I

Fleischmann came to America during 1924 Knowing how to speak English just well enough to mispronounce it, the former professor became a truck-driver's helper. He tried numerous jobs, and finally found employment in his profession with a large Pittsburgh steel company.

From Pittsburgh he went to Canton in 1928 to take charge of the Metallographic Laboratory of the Timken Company, where he has made contributions in the field of metallographic research.

Three years ago, American aircraft engineers realized that if a special, tough, heat-resistant steel for a vital part of the turbo-supercharger could be developed, it would add thousands of feet to American aircraft ceilings. The call for this steel went out. Fleischmann, remembering the security he enjoyed as a pilot of the German high altitude observation plane, sought to provide the necessary steel.

He succeeded. American airplanes now fly above a great deal of anti-aircraft fire. The new metal is paying tremendous dividends in lives saved and planes that come back to fight again over the empires dominated by Germany and Japan.



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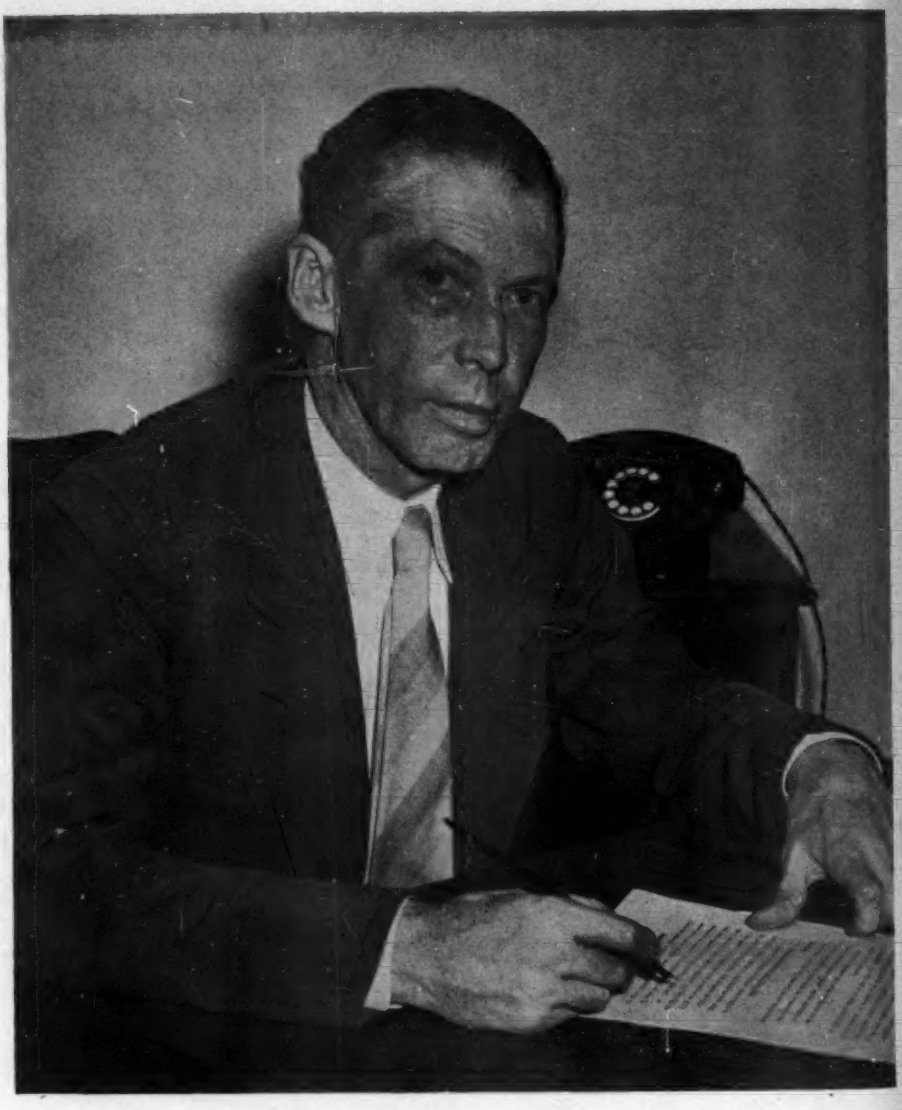


HALSEY R. BAZLEY

President, All American Aviation, Inc.

MASTER OF AIR PICKUP

NO "swivel chair" pilot is Major Halsey R. Bazley, president of All American Aviation Inc., which is the originator and operator of the Air Mail Pickup system now serving 116 communities in six mid-eastern states.

Active in aviation, as a pilot and executive, since learning to fly with the U. S. Army at Hicks Field, Tex., in 1918, Major Bazley holds Transport Pilot Certificate No. 770, plus current airline and instrument ratings. During World War I, he saw active duty in France and has since that time logged more than 5,000 flying hours. Intensely interested in the flying operations of his company, Major Bazley welcomes an opportunity to "skipper" a pickup run and can fly "weather" with the best of them.

Through his understanding of pilots and their problems, he has developed a flying staff probably second to none in the airline industry. Through his flying ability, he holds their respect and through his good fellowship and understanding, their admiration and loyalty. Regardless of the weather, or the odds, every Triple A pilot would fly or "fight" at a word from "the Major."

Major Bazley has been with All American since he came in August, 1939, as operations manager, being advanced to vice president in charge of operations in April, 1942. A year later, he was named to replace the late Richard C. du Pont as president, upon the latter's appointment as special assistant to General H. H. Arnold, in charge of the Army's glider program.

Under his direction, All American pilots have completed over four years of successful air pickup operations, have flown 3,000,000 scheduled miles, made approximately 300,000 pickups and deliveries and completed over 92 per cent of their schedules, without injury to personnel or serious damage to cargo or equipment.

Born in Whitman, Mass., on May 7, 1896, Major Bazley attended Northeastern College of Boston, 1915-1917, leaving to enter the aviation section of the U. S. Army Signal Corps in 1917.

In 1920 he was commissioned a major in the Air Corps Reserve. He still retains this rank and is now President of the Pittsburgh Chapter, U. S. Air Corps Reserve.

Immediately after the war, Major Bazley entered commercial aviation as Boston manager of the Atlantic Air Service, leaving there in 1929 to become Pittsburgh manager, Curtis-Wright Flying Service.

In 1932 he was appointed aviation director for Allegheny County and placed in charge of the Allegheny County Airport. He remained in this position until 1936, when he became assistant chief of the Pennsylvania Department of Aeronautics, remaining there until his affiliation with All American Aviation, Inc., in 1939.

Typical of the "old school" in aviation, Major Bazley is no respecter of rank and title, treating each member of his organization in the same friendly manner. Pilots, pickup men, mechanics and helpers alike refer to him affectionately as "the Boss," "the Major," or just plain "Hal."

Nervously energetic, he works long, irregular hours and has the faculty of imparting this energy and enthusiasm to his employees.

Intensely interested in the future of his pet aviation project—the Air Pickup—Triple A's "flying president" is at present laying plans for the future expansion and development of his company's operations.

What Airman Bazley and his company does in the next two or three years may well have a bearing on the future of air cargo far beyond what one would expect from the present size of the All American Aviation, Inc., setup.

For though the subject is hotly debated, there are many beside All American's own enthusiasts who freely predict that Pickup is the method by which *cargo-by-air* will really be brought into being for the great masses of the U. S. population.

Many other organizations are planning to enter the Air Pickup field, now that du Pont, Bazley *et al.* have so successfully pioneered the project which so many scoffers thought was impossible. But Bazley's company is so far in the lead that they'll have to move very fast to catch up.

Port of New York Expects to Hold Cargo Supremacy

Port Authority Is Already Mapping Plans for World's No. 1 Air Freight Center

FOR MONTHS, inland Americans have been hearing that the postwar age of air transport would make every big inland city an international air port. Many such predictions have all but sounded the knell of New York's generations of supremacy as the nation's No. 1 port for all international commerce. That New York doesn't see it that way, and is doing plenty about it, is the story here told by Analyst Wood, longtime airport and air transportation consultant and author of the standard reference work, Airports, *and of numerous studies.*

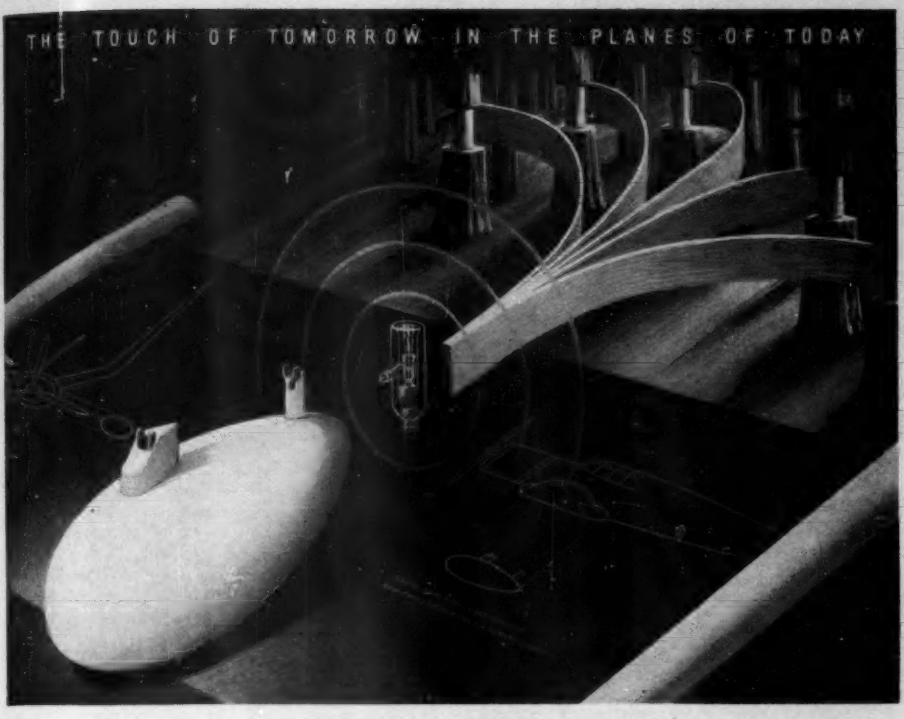
By JOHN WALTER WOOD
Air Transport Analyst, Port of New York Authority

AVIATION'S expanding role of aviation in world commerce is naturally a primary concern of the nation's premier seaport, the Port of New York. The Port of New York Authority is a bi-state agency charged with the development and protection of the port's commerce. The Authority is today engaged in an overall planning program which includes an evaluation of future trends in trade and transportation. Fully realizing the vital role which air transport will play in the postwar picture, the Authority is conducting intensive studies in this field, with particular emphasis upon the new terminal handling problems which will be created by the mass movement of passengers and cargo by air.

Our air transport studies are based upon the premise that the Port of New York will continue to be the major western terminus for transatlantic air transport after the war, as well as a principal terminal for transcontinental and short haul air traffic. Whatever our concepts of global geography, this assumption seems to be well justified by sound economics. Experience with all forms of transportation has established the fact that terminals must develop first at the points where heaviest traffic is concentrated.

Within the metropolitan area and the territory it serves, there originates the great preponderance of high-class passenger and freight traffic which will support fast, frequent and direct flights in overseas air service. About 70 per cent of prewar overseas passenger travelers used the Port of New York. Approximately two-thirds of American citizens traveling abroad resided within the northeastern portion of the U. S.—over 40 per cent of them in New York and New Jersey alone. Records of domestic air express revenues show that about one-fourth of all such traffic originates at or is delivered to New York.

The Authority is approaching its work in the air transport field in the role of a liaison and coordinating agency. Current economic studies indicate that the construction and operation of airports will, in



Warbirds Hatch Extra Range from this "Egg"

Today, the skies over targets deep inside the perimeter of Japan's island defenses know the roar of our Navy's fighters, dive bombers and torpedo planes.

Carrier-based aircraft, whose range was once comparatively limited, can now strike at the Japs hundreds of miles in advance of Navy task forces, thanks to the egg each plane carries under its belly.

To give our Navy planes this extra range, Fairchild engineers have designed a DURA-MOLDED expendable gasoline tank much lighter than its metal counterpart, but holding the same amount of fuel.

When the egg is sucked dry by the plane's hungry engine, the pilot drops it by simply pressing a button, and switches over to his ship's regular tanks.

Built entirely of plywood, it is veneered and shaped by a process known as DURA-MOLD. In this process layers of wood, laid cross-grain, are permanently glue-bonded with special resins and moulded under heat and pressure.

DURAMOLD, another milestone in the progress of American aviation, is a striking example of Fairchild's "touch of tomorrow in the planes of today."

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all probability, remain a municipal function, with federal and perhaps state assistance. It is unlikely that airports in the near future will fall into the category of self-liquidating projects capable of construction and operation by agencies of the Authority type.

The function of the Authority in airport construction would rather appear to be to act in an advisory capacity to the end that all sections of the Port District will be adequately served by airports of sufficient size and capacity to handle adequately the air traffic of the near future. To this end, the Port Authority is currently compiling and analyzing estimates of potential air traffic into and out of the area and the capacity of existing airports and those now under construction to take care of this traffic.

Among the many questions being studied is the great increase in scheduled plane traffic capacity of the port area which might result from adoption of the tangential runway system now being considered for use at Idlewild Airport on Jamaica Bay. Even if the tangential runway system is to be adopted at Idlewild, there may well remain a need for a considerable number of additional airports to serve the air-passenger and air-freight needs of a center of the importance of the New York and New Jersey area.

***THIS IS THE PORT** of New York, as set up by the historic 1921 compact between the states of New York and New Jersey which created the Port Authority. The Authority is best known as operator of six great automobile crossings between the two states, biggest of which are Holland Tunnel and George Washington Bridge.*

It seems clear that the air transport interests of this densely populated Metropolitan region should be safeguarded and protected by selecting, and when possible, acquiring, the few remaining undeveloped tracts of land that are suitable for airports.

The Authority is currently studying in detail the pickup and delivery problem. This problem has a close relation to bridges, tunnels, arterial highways, transit lines, helicopter landing areas, and union off-line stations such as the Authority's Union Inland Terminal No. 1, through which are now handled nearly 300,000 tons per annum of less-than-carload rail and express package freight.

A definite need which can already be foreseen is a series of off-line union stations through which will function a coordinated system of pickup and delivery for air freight and passengers. These should be located as close to the principal business centers as conditions will permit and should be linked with the airports by fast highway and rail transport, and perhaps by helicopter service.

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IT'S AN Air WORLD

By L. A. GOLDSMITH, *Economic Analyst,* AIR TRANSPORTATION

Panagra's Phonetic Pamphlet, Miniature Dictionary, Says Learn Aloft and Like It!

A SHORT-CUT to acquiring a valuable vocabulary in Spanish or English is offered by a recent Panagra publication. They call it a Vest Pocket English-Spanish and Spanish-English Dictionary for Air Travelers. It is really a delightful addition to one's language library—and it is "for free." Its inside contents are as good as its outside make-up—extremely well arranged, not only from the phonetic angle but also because the selection of key words and phrases are so excellent.

Whether it is Spanish that the North American travelers are catching up with, or English for the Latin American passengers, they will find just what they need to make for easy traveling and happy landings.

This tiny dictionary presents a great variety of subjects, all keyed by index pages. In the words of the Panagra "while it was originally intended only for air travelers, it has found its way into schools and colleges." They have discovered that many students who are wrestling with the knotty problem of commercial air transportation of the future have been given an added incentive by having access to Panagra's phonetics in either Spanish or English.

First Transoceanic Newspaper! Through The Magic of Microfilm Plus Airplane Speed Delivery

UNDER date of January 5, 1944, the world's first transoceanic newspaper made its bow. The London *Daily Mail* inaugurated a new venture in transoceanic publishing, and began the publication of a weekly digest of their daily London issues in an edition specially designed for distribution in the U. S. The weekly is set up in England, photographed on microfilm, (the entire digest reduces in microfilm to the size of a single dollar bill) then flown to New York—re-enlarged to a 9-by-12-inch size and then mailed out to a hand-picked cross-section of about 3000 people here.

Viscount Rothermere, publisher of the *Daily Mail,* in a signed article in the first issue, declared the one purpose for this new venture "a contribution to a better understanding of the British and American peoples" and he went on to say that "for the first time in history a great national newspaper in London is setting out to put on the desks of influential people in America an account (in pictures as well as in words) of the things that its readers have been reading in Britain only two or three days ago."

Lord Rothermere points out further that the experiment is more than a spontaneous messenger of goodwill: "It is also a pointer to the future; a pointer to the exciting possibilities of harnessing together the aeroplane, the camera and the printing press in the coming AGE OF FLIGHT."

Response from U. S. recipients of the transoceanic issue has been overwhelming—so much that its American correspondent, Don Iddon, has been trying to do something to meet the unprecedented demand for the American edition on a subscription basis. Up to now there is only the complimentary edition of 3000.

So far it has not been possible to secure enough newsprint to permit a paid circulation, even if this were limited to only fifteen or twenty thousand.

Letters have been received from General Pershing, Wendell Willkie, Governor Dewey, former Chief Justice Charles Evan Hughes and innumerable other distinguished persons. They are all enthusiastic. One book publisher wrote a three-page letter on the slightly critical side, stating that in his opinion the contents were being *too* carefully selected to appeal to the American public, and are not as indicative as they should be of actual British readership. But to my mind that would seem to show that Britain *is* reading, at least in the *Daily Mail,* a tremendous number of items which do interest the American public. Because everything in the digest originally appears—as is—in the London editions.

AS a case in point there is an article in the third edition about the jet-propelled plane, written under the by-line of Colin Bednall, *Daily Mail* air correspondent. The heading is that of this paragraph's caption, and his subhead also gives food for thought: "Britain provides war-winning inventions—America develops them." Bednall points out that "Frank Whittle, inventor of the jet-propelled plane, is one of many British scientists whose ideas have been made available to the United States."

Lend Lease Applies To Ideas As Well

Four of these digests have now been published. But the returns from the first one are beginning to come in from all five continents and the seven seas as well; including many men in our Armed Forces. One lieutenant of Marines writes, asking pleadingly if a copy could be mailed to him "to share with a group of news-hungry as well as very busy men."

A woman civilian writes from Honolulu, saying that she had seen a copy sent to the British Consul there, and was eager to secure the publication on a paid basis. Similar letters have come in from Buenos Aires and all over South and Central America, and even Africa.

The time element in the receipt of these letters is of particular interest to air transportation. Less than one month after the first issue was published in New York, these letters have come pouring in from all parts of the world—a good indication that air mail has speedy delivery even in wartime to practically everywhere.

THE story of Lowell Yerex, the New Zealand boy who made good in a big way in the Americas, is a Horatio Alger story, if there ever was one. Today Lowell Yerex is many times a millionaire. He heads TACA and the affiliated lines he operates throughout Central America and the British West Indies.

Today He Is A Millionaire, Twelve Years Ago Salary Unpaid; Horatio Alger Tale True To Life.

Twelve years ago, Yerex then in Mexico and somewhat stranded, was hired as a pilot by three young Americans who had a plane which they could not fly and whose pilot had left them flat. Yerex filled in as a pinch hitter at an agreed upon salary. They had heard of some possibilities of picking up some passengers and freight from a few interior mountain points, and flying both passengers and freight down to the coast in an hour or so. Otherwise the travel time via mule back would be anywhere from one to two weeks. This venture prospered, but the owners of the plane squandered the revenue and had nothing left with which to pay Yerex. So he sued them for his salary, and compromised by accepting a half interest in the plane; waiving all salary claims, and giving his note for $2,000 for the other half of the plane. Saddled with a debt of $2,000 he started out to make his way. He did. In three months he had paid off the two thousand dollars and became the proud possessor of the old second hand plane, very much battered and the worse for wear.

Lowell Yerex thought out his problem, and that seemed to him to be able to get enough freight to pay his overhead expenses. He developed his cargoes without benefit of any subsidy from any government, and built up what was literally a butter and egg route by air! He flew cheeses and corn produce and live poultry up in the clouds for nominal charges and added mails for good measure. But he only charged for the mails at the usual *mule back rates*. So naturally he got all the mail he could carry and anything else he could pick up at such bargain air cargo rates. On his return trips he would fly back mining machinery and refrigerators, live lobsters or whatever came his way.

The TACA Airways have flown 30 million pounds of mail, air express and freight during 1943 and Yerex has on his log books a record of two *billion* revenue miles over the period of his freight operations. His half plane interest has grown to a fleet of 37 planes over 9000 miles of routes and he operates some 84 airfields.

Today, after plugging it the hard way for the better part of his first twelve years as an airways operator, Mr. Yerex can now be said to be sitting pretty. Real money has been piling up for some time past, but the millions in good American dollars came rolling in with the purchase for $1,350,000 of 33 per cent of Lowell Yerex' interest in Taca Airways S.A. of Panama by TWA, in the latter part of 1943.

Today TACA Airways is controlled by U. S. interests. Among these interests, in addition to TWA, there is Stewart MacDonald, President and Chairman of the Maryland Casualty Co., who has been elected Chairman of the Executive Committee of TACA; also Adams Express Co. of New York and Time, Inc., publishers of the weekly magazine. Such impressive U. S. business colleagues is a far cry from a half interest in an almost worn out flying crate.

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American Export Joins 'Solid 16' Domestic Airlines to Buck 'Monopoly'

American Export Airlines on Feb. 8 formally merged interests with the 16 domestic airlines in their campaign to "prevent monopoly in postwar aviation under the American flag." John E. Slater, executive vice president, said that AEA's action was revealed in a letter sent to S. J. Solomon, chairman of the "Airlines Committee for U. S. Air Policy."

"I am convinced that the fundamental objectives sought in the programs of the 16 domestic airlines and of our company are the same," Slater said in the letter.

"The most important problem for the U. S. in international air transportation is the determination of its policy as between competition and monopoly. This company has been urging and fighting for competition in international air transportation for over five years and we have been and are vigorously opposed to either private or Government monopoly in all air transportation.

"Competition in international air transportation is also the avowed policy of the 16 domestic airlines, which, themselves, have risen to their present strong position in the domestic field in the atmosphere of competition. The 16 domestic airlines have also made it clear that they expect the amount of competition in the foreign field will be limited to the number of companies and the number of routes determined by the Civil Aeronautics Board to be in the public interest. We heartily subscribe.

"We also subscribe to the principle of reciprocal rights of commercial air transit as defined by the chairman of the CAB. In the light of these facts, it would seem that it is to the interests of all of us to join forces in our advocacy of these principles and we therefore, would be pleased to associate ourselves with your group and to cooperate with you in every way to accomplish our common objectives."

American Export began scheduled air operations across the Atlantic in June 1942, under a certificate issued by CAB. The company now operates across both North and South Atlantic to Europe and Africa, flying part of its winter route through points on the east coast of South America, Puerto Rico and Bermuda. Operating headquarters are at LaGuardia Field, New York.

The company first announced its desire to establish an air service to Europe in 1936. In 1938 it bought its first airplane for survey work, and in 1939 ran its first survey flights across the Atlantic to England, France, and Portugal via three different routes. In the fall of 1939 the company applied to CAB for a route to the United Kingdom, one to France, and another one to Rome via Lisbon. Due to the Neutrality Act, the routes to the United Kingdom and France were held up, but in 1940 a certificate was issued for a route to Lisbon-Rome also, by that time, having been eliminated due to the war. After Pearl Harbor the company offered its organization and equipment for a service between New York and the United Kingdom via Eire, and in January 1942, it was granted a certificate to operate.

For many years American Export was sole contender against powerful Pan American in the U. S.-operated foreign airline field and carried on a single handed campaign to uphold competition as the basis of U. S. foreign air policy.

Now AA's War Crews Can 'Make Own' Water

Transport planes' liferafts were equipped for the first time in the history of the world with a chemical process for making sea water drinkable with the recent delivery of Permutit kits to American Airlines, Inc.

The company received the first kits to come off the production line because American made the first commercial tests on this process in its laboratories at La Guardia Field, and demonstrated the process in actual liferaft tests held off Cape Fear last June and off Pensacola in July. American immediately ordered enough kits to equip all transport planes it operates overseas for the Air Transport Command.

Air Cargo Fleet Completes Oceanic Flight with 350,000 Lbs. of Freight

What probably was the biggest mass flight of air cargo in history came off without a hitch, the War Department announced this month, when a fleet of 35 Douglas C-47 (converted DC-3's) transports hauled 350,000 lbs. of cargo from Natal, Brazil, to Africa—1,970 air miles.

Freight included munitions, blasting materials, food, clothing and plane engines—most of it destined for the strategic India-China air cargo route. In addition, each plane had to take off with 1,623 gals. of fuel plus a crew of four.

There were many conclusions to be drawn from the historic flight, the date of which was not disclosed. It may well have been completed months ago, and the news held until no longer of possible value to the enemy. Most obvious comment was that of such a quantity of cargo could be successfully carried so great a distance in a plane basically designed a decade ago and never intended as a cargoliner, anyhow, what couldn't be expected of tomorrow's real cargo planes?

Pan American Merges Pacific, Alaska Divisions

Consolidation of its transpacific and Alaskan transport operations into a single administrative unit with headquarters at San Francisco has been effected by Pan American Airways.

Effective Feb. 1, the new Pacific-Alaska division, will combine the present transpacific division, based at San Francisco, and the Alaska Division, based at Seattle. L. C. Reynolds, acting transpacific manager, has been named manager. Alaska sector headquarters will be maintained at Seattle.

The move welds into one operational setup the transpacific network which spanned the Pacific to Australasia and the Orient before Pearl Harbor, and organized air transport operations linking the principal centers of population in Alaska with the U. S. proper at Seattle. Pan Am. officials called it "a further step in long range plans for the centralized administration of related services." Last Jan. 1 all its Latin American services, totaling some 50,000 route miles, were consolidated into the Latin American Division, with headquarters at Miami.

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***NEW YORK'S** outspoken Mayor Fiorello H. La Guardia, planner of the world's biggest airport, confers with* **Air Transportation's** *Publisher John F. Budd, chairman of the new Aviation Section, New York Board of Trade, at the inaugural luncheon at the Hotel Astor, January 27.*

New York's Potent Board of Trade Launches Its New Aviation Section

At least since Pearl Harbor, New York has been the world's biggest air transportation center, and for a long time before that it was undoubtedly the biggest in America. But not until last month did the nation's biggest city boast one centralized organization dedicated to the city's advancement in air transportation.

Oswald F. Ryan
Acting Chairman, CAB

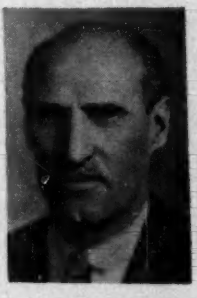
Filler of this long conspicuous gap was the new Aviation Section of the long powerful New York Board of Trade. The City of New York, as most people don't know, boasts no chamber of commerce on the conventional pattern known to most cities. The Board of Trade is like a chamber of commerce in many respects, but its work is highly specialized; the board, in fact, is made up of a number of sections dedicated to various interests and industries, each of which is a semi-autonomous organization in its own right.

Last month, on Jan. 27, the long needed Aviation Section got under way with a luncheon attended by some 400 air transportation and shipping leaders, heard some rousing predictions on its future tasks from Oswald F. Ryan, acting chairman of the Civil Aeronautics Board, and chose its working staff, the chairmen of 15 key committees (*see cuts on opposite page and on page 38*, who in addition constitute the personnel of the section's executive committee, headed by John F. Budd, editor and publisher of

(*Continued on Page 38*)

Executive Committeemen Head Section's 15 Key Operating Committees

Left to right, Warren L. Baker, domestic manager, Socony-Vacuum Oil Co., Fuels, Oils & Lubricants chairman; George F. Bauer, international traffic analyst, Air Cargo Inc., Air Commerce chairman; George Boochever, international lawyer, Aviation Legal chairman; Louis de Garmo, director of client relations, Paris & Peart Inc., Advertising & Public Relations chairman.



Harry L. Gage, vice president, Mergenthaler Linotype Co., Graphic Arts chairman; Harold Jackson, president, William H. McGee & Co., Aviation Insurance chairman; Leonard Jacob, II, assistant vice president, International Telephone & Telegraph Corp., Communications chairman; C. S. (Casey) Jones, president, Casey Jones School of Aeronautics, Schools & Training Services chairman.

Lloyd Harold Kest, M.D., Aviation Medicine Consultants chairman; Herbert J. Lyall, eastern traffic manager, American Airlines Inc., Airline Operators chairman; Paul E. Manheim, partner, Lehman Bros., Financing chairman; Chester Mack Mayer, president, Air Express International Agency Inc., Air Shipping Services chairman.

Matthew G. Ely
President, New York Board of Trade, Inc.

Lyle C. Ray, executive director, Aviation Packaging Co., Special Services chairman; J. E. Sitterley, president, J. E. Sitterley & Sons Inc., and publisher, Guia de Importadores, Publications chairman; J. T. Wilson, manager, world trade division, International Business Machines Corp., Passengers & Shippers chairman. **(See other pictures on Page 37.)**

AIR TRANSPORTATION, who is chairman of the section as well.

President of the entire Board of Trade and chairman of the inaugural luncheon is Matthew G. Ely, head of the New York real estate firm of Horace S. Ely & Co.

Co-star of the opening program, though an unannounced-in-advance speaker, was New York's bouncing Mayor Fiorello H. La Guardia, who predicted that he would be calling soon and often on the Aviation Section for help in selling the people of New York on the admittedly enormous coming cost of keeping New York on the world air map with the gigantic new Idlewild Airport as well as in backing up other La Guardia plans for New York's postwar air destiny.

Daniel H. Ecker
Secretary, Aviation Section

"We are confronted," Chairman Ryan declared, "not only with an opportunity but with a solemn national obligation—an obligation to insure that there shall be places waiting in our economic life for the men of our Armed Forces when they return. A nation worth dying for in time of war must be a nation worth living in in time of peace; and we shall be unworthy of those who have borne the battle if we permt the streets of our cities in the postwar period to resound to the tramp of unemployed millions searching for jobs they cannot find.

"This calls to mind the importance of a new factor in our national economy which has not heretofore been rated as a factor of primary importance in the minds of most Americans—the significance of our foreign trade and the need for maximum expansion.

"Air transportation offers the greatest promise for the fulfilment of this national need. It represents man's last and greatest conquest over time and space. There will not be one important city or traffic center in the world that will be more than 60 hours distant from any other city in the world. No two important cities on earth will be farther apart by air than New York and Los Angeles now are by train.

"If we Americans are to keep abreast of the other great peoples, if we are to preserve our rightful place in the forefront of the world's economic and social power, we must be prepared for the age of flight into which we are moving with such lightning speed. We must take full advantage of the opportunity to expand our air transportation and thereby realize our fair share of the air commerce of the world.

"How shall we appraise New York's future position as an international air terminal?" he continued. "In the first place it may be assumed with entire assurance that overseas transportation of air cargo will have no measurable effect upon New York's position as a seaport.

"Passenger travel presents quite a different

picture. All first and cabin-class travellers pay fares that fall well within the range of future air transport costs. My colleague, Mr. Warner, estimates that within the next few years overseas air transportation will capture one-half of the ....

"But New York will not owe its position as an international air terminal to the fact that it is situated on the Atlantic seaboard. It will derive that position from the fact that it is the principal air traffic generating center of the world and sits astride the great air tracks of the world."

Though no definite tasks have so far been shouldered by the youthful Aviation Section, its general objectives were laid down in an official platform promulgated at the opening luncheon:

1. Promote unity of action among all aviation and allied interests and take such steps as in its judgment it deems proper to advance such interests;

2. Bring about a better trade acquaintance and understanding among those directly or indirectly affiliated with Aviation and afford its members the advantages of discussions and information on all phases of Aviation and Air Commerce;

3. Create intelligent interest in Aviation and cooperation with public agencies;

4. Inspire and encourage such over-all federal legislation providing for uniform operating and economic regulation and discourage "hodge-podge" state and local aviation legislation;

5. Urge expansion of the United States Post Office Department's use of air facilities; and

6. Study, survey and plan, immediately, for the expansion of postwar aviation and the promotion of Aviation as an industry.

Secretary of the new section is Daniel Hawthorne Ecker, since 1942 industrial relations manager of Mergenthaler Linotype, and before that executive secretary of the Colombian-American Institute, field industrial representative of the Port of New York Authority and foreign trade educational secretary of the National Foreign Trade Council.

24-Hour Watch Face Offered

A decalcomania to be placed on the inside of a watch crystal to show the much-used "Army, Navy" 24-hour time has been designed to be distributed throughout the division offices of Esso Marketers, R. C. Oertel, head of the Aviation Division, announced recently. It is slightly smaller in diameter than a 10-cent piece. It's free . . . send for one.

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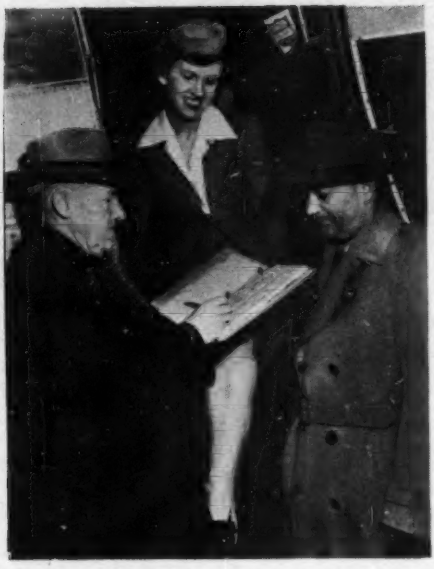


50,000 FLIGHTS: Two men who flew portions of United Air Lines' first coast-to-coast flight in July 1927, last month observed the company's 50,000th transcontinental flight by certifying the log book of Stewardess Helen Jean Hess. They are E. P. Lott, now United's superintendent of design, buildings and airports (left), and W. D. "Bill" Williams, superintendent, eastern flight operations.

United Celebrates Its 50,000th Flight From Coast to Coast

What officials believed to be a new record for long-distance air transport operation was set on Jan. 17 when United Air Lines completed its 50,000th coast-to-coast flight.

United didn't take time out for special observance, but old-timers recalled the first coast-to-coast flight in two-passenger Boeing 40-A mail planes on July 1-2, 1927—at a time when passengers rode in a box-like compartment and frequently sat on mail sacks. A coast-to-coast flight required almost 34 hours. Today, United makes the journey overnight and is planning postwar transcontinental time of around 12 hours.

The Boeing 40-A's of 1927 were followed by tri-motored Boeing 80-A's which represented the largest planes in transport service at that time. These, in turn, were followed by the revolutionary twin-engined all-metal Boeing 247 which set the pattern for planes now in airline and military service.

Shop-by-Air Service Wins Unique Success In Wartime Mexico

A "shopping service" by air, unique in the world, functioning successfully in Mexico for 12 years, today is proving its worth in maintaining war industries in that nation at peak efficiency.

Instituted by Compania Mexicana de Aviacion, S. A., Mexican affiliate of Pan American Airways, on Dec. 22, 1931 to help people in all parts of the Republic desiring to obtain articles in Mexico City, the service today is aiding the war effort by rushing machinery and repair parts to Mexican industries in hours rather than days.

Recently the service proved its wartime value when a motorship serving Pacific ports with industrial materials and provisions was delayed by a machinery breakdown. Notified of the problem, CMA officials arranged to have the repair part delivered on the next regular plane to Ixtepec, Oaxaca. From there the part was transported quickly to the ship and repairs soon made. Delivery of new and replacement parts for war industries, truck lines, etc., make up a large portion of shipments by this service today.

On numerous occasions the Servicio de Comisiones y Encargos, part of CMA's express service to more than 20 stations in Mexico, has aided in keeping the flow of war cargo moving by truck by rushing spare parts, transmission chains, etc., by air to the point of breakdown.

There have been many cases in which food, medicines and serums have been rapidly dispatched to many parts of the Republic through the efforts of Servicio. Recently the Traffic Representative in Monterrey was instrumental in arranging such a shipment. A young girl, ill, had been 24 hours without food and could drink only canned milk, of which none was then available in Monterrey.

An urgent telephone call from the Monterrey Traffic Representative in Monterrey to Servicio headquarters in Mexico City brought instant action. Servicio representatives purchased the cans of milk and gave them to the safekeeping of a CMA captain on the next daily flight to Monterrey.

Everything from the original request to the local CMA office to the final delivery of the shipment to its airport destination is handled by the Servicio. A person wishing to take advantage of the service fills out a regular form, noting the type and quantity of article he wishes to secure.

The message is relayed to Servicio headquarters in Mexico City, where the director and his assistant see to the purchasing and the dispatching of the shipment.

Transpacific Cargoes Show Vast Variety

Rushing spare parts for combat planes to South Pacific fighting zones is just one of the jobs mighty Douglas C-54 *Skymasters* are performing, and some of their cargoes winging across the Pacific are greater than were even dreamed of a few years ago.

One spare parts load dispatched from here in a *Skymaster* consisted of a number of turrets badly needed for some of General MacArthur's B-25 *Mitchell* bombers. Another was a bulky load of turrets for B-24 Liberators.

One night a *Skymaster* was loaded with 11 elevator assemblies for *Liberator* bombers. A special platform was built in the airplane so that the elevators could be loaded four abreast.

Stabilizer sections for *Liberators* are 27 feet long and five and one-half feet wide. The loadmaster reported it took quite a bit of jiggling and angling to get these immense packages in the hull of a *Skymaster*, but somehow it was done, and several were flown over in one C-54. Likewise, two wing sections for B-24s, which measure 28 feet in length and taper down from six feet, seven inches to five feet feet in width, were hoisted aboard a *Skymaster* one night and flown safely to the South Pacific.

One of the smallest packages ever hauled was a set of false teeth. A certain AAF major stationed on an island in the South Pacific broke teeth out of both his upper and lower plates. He packed the plates tenderly in a small box, and asked a pilot heading for this base to carry them into headquarters and have someone send them to his dentist in San Francisco. The teeth arrived in 36 hours and were promptly dispatched to the dentist, but the denture technician took his time on the repair job.

Almost every day for two weeks fellow officers at this post received letters from the major saying:

"The food is wonderful here, but I can't eat it—how about my teeth?"

"What if the General would come through, and I'd have to present myself—without my teeth?"

After several weeks the teeth were repaired and returned to this post. That night they were placed aboard a transpacific *Skymaster* and 36 hours later the major was once again happy—and whole.

HELPING AIR CARGO GROW: Key men of United Air Lines' rapidly expanding air cargo department are working with shippers, Express Agency and postoffice officials in connection with growing loads of air mail and express. Shown with C. P. Graddick, United's Cargo director, (center) they are, front row from left—David E. Fleischner, Seattle; Bruce H. Woods, Omaha; R. L. Mangold, Portland; J. R. Schmunk, Cleveland; Graddick, Chicago; B. C. Koenitzer, Philadelphia; J. R. Haymond, Newark, and Fred F. Dawson, San Francisco. Rear row from left—M. T. Brockman, Paul E. Burbank and Glen C. Evers, all of Chicago; W. J. Hartland, New York; Thomas W. S. Davis, Washington; Robert E. Caskey, Los Angeles, and C. H. Bennett, Oakland.

Lighted Airway Near Completion to Mexico And Guatemala

Night flying over the first lighted airway between the U. S. and Guatemala, via Mexico City, will soon be inaugurated by Pan American World Airways.

Installation of lighting equipment is nearing completion and will make Brownsville the fourth international air gateway for night as well as day service.

Faster service to the Canal Zone, too, will follow inauguration of night flying over the route, which goes via Tampico, Mexico City, Vera Cruz, Tapachula, and Guatemala. A second service to Mexico, that of Pan Am. from New Orleans, first American-flag international air service at night "south of the border," has been flown after dark since its inauguration in June, first time that the Civil Aeronautics Authority has authorized a U. S.-certificated line to do night flying in Mexico.

A third service, that of Compania Mexicana de Aviacion, S.A., Mexican affiliate of Pan Am., from Los Angeles to Mexico City, has been operated at night for 10 months. This night route cuts a full day from travel time required between the West Coast, the Canal Zone and South American points.

Under Pan American's long-range plans for lighting major lines in Latin America the main East Coast route from Miami to Trinidad will be lighted for 24-hour operation. Night flying over the first lighted airway in the Caribbean, that portion of this route between Port au Prince and Miami, permitting one-day 2,300-mile round trips from Miami to San Juan was inaugurated in December.

The first airway in South America serving passengers to be night-lighted, that between Belem and Fortalaza in Brazil, operated by Panair do Brasil, Pan American's Brazilian affiliate, was approved this year.

Similarly, Panagra (Pan American-Grace Airways) serving the South American west coast, is modernizing its radio direction finding equipment to permit night operation over its routes from the Canal Zone at least as far south as Lima, Peru.

Pan Am Lowers Rates For International Cargo; Offers New REA Pickup

Two innovations in Pan American Airways' international air express service in the direction of use and lower cost, adticipating vastly wider use of air cargo service in the future are announced effective Feb. 15: (1) Considerable reduction in valuation charges and insurance premiums on international express shipments by Pan American Airways, (2) a plan by which Railway Express Agency, Inc., will, at points throughout the U. S. where it operates pickup services, collect shipments at the shipper's door for transportation to any of the hundreds of destinations served by Pan American.

Thus it is possible for any individual or company in the U. S. where Railway Express pickup service operates, who desires to send express packages by Pan American to foreign points, to have its shipments called for at the door by Railway Express trucks on request to that carrier, without extra charge.

Through recently completed arrangements it will no longer be necessary for shippers to appear in person at the express office to sign Pan American's Airwaybill covering such shipments. All that will be necessary will be to call Railway Express and sign a form carried by the truckman authorizing the local express office to complete the PAA Airwaybill. The previous additional insurance premium covering transportation within the U. S. and Canada of international air express shipments will be eliminated on the same date.

Reduction in insurance premiums has been made possible through recognition by underwriters of the performance record of Pan American as well as of general improvements in air express service.

Also as of Feb. 15, shippers can now insure shipments from points of origin in the U. S. and Canada where Airwaybills are issued by the Railway Express Agency, Inc., and in Canada by Canadian Pacific Express Co. and Canadian National Railways, Express Department, until delivery to the consignee named in the Airwaybill, or his authorized agent (including transit from origin by Railway Express Agency, Inc., Air or Rail Service, to PAA's international airport of export in the United States), at the same reduced premiums shown in the current tariff as applying from the international airport of export to the airport of destination. This eliminates the additional premium of 10 cents per $100 heretofore charged to cover transit in the U. S. and Canada.

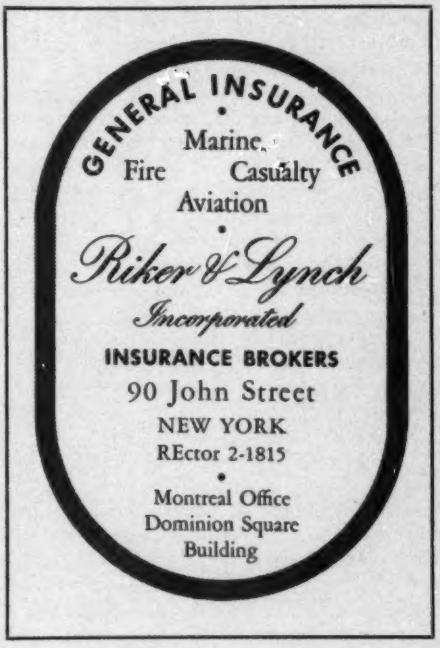
At points in the U. S. and Canada where Airwaybills are not issued by the official receiving agents, and where shipments are accepted and forwarded to the international airport of export in the U. S. under the company's form of "shipper's letter of instructions," shipments can be insured under this company's shipper's open policy at the reduced premium mentioned, to cover only from the international airport of export in the U. S. where the Airwaybill is issued, until delivery to the consignees named in the Airwaybills, or their authorized agents.

Bigger Cargo Loads Considered by CAB

The Civil Aeronautics Board was to hold a public hearing on Feb. 8, on a proposal to amend existing regulations to permit commercial transport aircraft to operate at greater weights.

One specific proposal was to go into the advisability of increasing the takeoff weight of the Douglas DC-3 commercial transport plane by 1,000 lbs. and its landing weight by 800 lbs., the Board said. Another proposal would increase both the landing and takeoff weight of the Lockheed *Lodestar* model by 1,000 lbs. The Board pointed out that these proposals apply specifically to Douglas and Lockheed aircraft equipped with Wright G-202 or Pratt & Whitney S1C3G engines.

Maximum landing and takeoff weights permitted now for DC-3's are 24,400 lbs. and 25,200 lbs., the Board said.



AIR TRANSPORTATION Books

Parcel Post By Air? Stout & Reck, in Book, Call It Not Unlikely

ANYONE who doubts the reality of a tremendous future for the transport airplane in these United States (should there be any such among the readers of AIR TRANSPORTATION, which is perhaps not likely, will quickly resolve his doubts if he reads TOMORROW WE FLY, by famed Aircraft Designers William B. Stout and Franklin M. Reck.

Not quite so conservative as many a recent prophet of air cargo's future, Messrs. Stout and Reck each quote (and apparently concur with) the National Resources Planning Board's forecast of an air cargo volume after the war (how soon isn't stated) of some 500,000,000 to 600,000,000 ton-miles a year—"approximately 100 times the volume of 1941 air express."

More intriguing still, however, is their expression of "strong possibility that airlines will develop some business in parcel post. It isn't unreasonable," they go on, "to suppose that airlines might develop a parcel-post business . . . of 42,500,000 ton-miles, or about eight times the volume of all 1941 air express." This, of course, in addition to express *per se*.

Naturally, Stout & Reck figure on far lower costs to shippers as a necessary prerequisite of that kind of growth. Most of their predictions are based on a cost averaging around 20 cents per ton-mile, as compared to today's average of some 72 cents, following last year's reductions in air express rates.

"Flying trucks," they think, are another possibility—operated not by the airlines but by big manufacturerers such as General Motors for hauling materials between their plants. That's one, you can be sure, the airlines will be none too happy about.

Thomas Y. Crowell Co., 432 Fourth Ave., New York. $2.00.

Inventor William B. Stout turns prophet ***(See Column One)***

FLYING HEALTH, by Dr. M. Martyn Kafka, gives full details about the health of the flier. The author, former U. S. Army Air Corps flight surgeon, has gathered together the most complete information. *Copies may be obtained from Military Service. $2.00.*

THE SUZY-Q, by Priscilla Hardison. The author is the wife of Lieut. Col. Felix Hardison, commander of the Flying Fortress *Suzy-Q*, which he named for her. She paints a vivid picture, not only of the Fortress, but of her gallant crew of eight, beginning New Year's Day, 1942, when the ship left Seattle, and ending the story the following Thanksgiving Day, when the *Susy-Q* returned to the States, after probably killing more Japs than any other plane in the Air Forces. *Copies may be obtained from Houghton Mifflin Co., 2 Park St., Boston. $2.00.*

AN EDUCATIONAL GUIDE IN AIR TRANSPORTATION, illustrated 140-page vocational guidebook on air transportation, has been published by Transcontinental & Western Air Inc., to acquaint the nation's youth with opportunities awaiting them in this field of aviation.

Prepared primarily for educators and students, the book contains complete de-

scriptions of the types of jobs available in commercial transport, together with vocational charts setting forth qualifications and salary ranges.

"Youth of the nation must scrap the old Mercator-type maps and adopt new textbooks in order to achieve their proper place in the Air Age," says Jack Frye, TWA's president, in the introduction. "The task of bringing youth to full consciousness of what the airplane may mean lies with our educators and our educational institutions, and it is to the end of helping them in this vital work that this book has been prepared."

The book contains a world map for the Air Age and explains that the airplane has caused us to place the North Pole at the center, much in the way that the hub is in the center of a wheel. It describes how global war has swept mankind into a three dimensional age of the air; how the plane has conquered entire nations and then sets forth the limitless possibilities of aircraft as an instrument of peaceful commerce.

In addition to an orientation course in air transportation, the educational guide contains a complete bibliography on various aviation subjects. The book was prepared by R. E. Hinkel, TWA's educational supervisor, and Leo Baron, general manager of the airline's public information department. *Copies are available through TWA's Public Information Department, 101 West Eleventh St., Kansas City 6, Mo. 75 cents.*

WAR EAGLES, by James Saxon Childers. This is the story of the American pilots in the Eagle Squadron of the R. A. F., of how they lived, fought, and died. It is the personal history of that group of young Americans who joined the R. A. F. because they loved flying, and couldn't wait for the United States to get into war. This book covers many subjects, and contains tears, laughter, tragedy, modesty, and heroics. *Copies may be obtained from D. Appleton-Century Co., 35 West 32nd St., N. Y. C. Price $3.75.*

THE STRUGGLE FOR AIRWAYS IN LATIN AMERICA, by William A. M. Burden. This book describes how our government, acting in cooperation with South American republics initiated the campaign which resulted in grounding all Axis airlines in this hemisphere. There are many charts and tables that provide valuable statistical data. *Copies may be obtained from the Council on Foreign Relations, 45 E. 65th St., N. Y. C. Price $5.00.*

THE WRIGHT BROTHERS, by Fred C. Kelly. This is the authentic story of the birth of aviation. The story of the Wright Brothers is American to the core. The author tells how, as boys, they first encountered the problem of flight when playing with a mechanical toy. Mr. Wright has given his permission for the publication of this book, after reading and verifying the author's manuscript. *Copies may be obtained from Harcourt, Brace & Co., 383 Madison Ave., N. Y. C. Price $3.50.*

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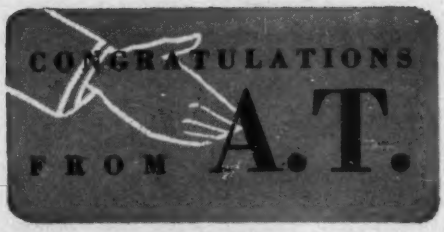

. . . NOT, FOR ONCE, to Pan American Airways' ubiquitos President Juan Terry Trippe—but to Atlantic Division Manager John C. Leslie, here shown receiving his 15-year Pan Am service pin from Trippe. Long active in Pan Am's far flung trans-oceanic operations, Leslie was technical adviser in charge of President Roosevelt's 1943 flight to Casablanca.

TO the new "stop-and-go" man of TACA Airways System, Acting Traffic Manager John Taylor Floyd, Jr. Foremost in his plans at this time is the co-ordination of passenger and freight traffic in airways represented by TACA Agency.

John T. Floyd, Jr.

Before joining TACA, Floyd was chief of planning at American Export Airlines, transportation consultant of R. A. Lasley, Inc. consulting engineers, and traffic supervisor of Sylvania Electric Products, Inc. He also was formerly associated with the New York Central Railroad in the operating and traffic department. This month he's making a trip through Central America and the West Indies covering TACA's operations in that section.

TO Thomas A. Knowles, raised to a vice presidency of Goodyear Aircraft Corp., as announced by P. W. Litchfield, chairman of the board of the parent company, the Goodyear Tire & Rubber Co.

Thomas A. Knowles

Knowles came to Goodyear in 1927 on graduating from M.I.T. and later received his license as a balloon and airship pilot and was transferred to Goodyear Zeppelin Corp., forerunner of Goodyear Aircraft, in 1928, in the research department, serving there during the construction of the airships *Akron* and *Macon*. Later he went to Germany on the *Graf Zeppelin* and studied airship construction at Luftschiffbau, returning to Goodyear Zeppelin as development engineer.

From 1936 to 1940 he was in Washington representing Goodyear Zeppelin, working on development of over-ocean airship service.

Returning to Goodyear Aircraft in January, 1941, he took over the management of the customer engineering contact department and later became sales manager.

TO Jack Frye, president of Transcontinental & Western Air Inc., who has been elected a fellow of the Institute of Aeronautical Sciences, the highest honor the Institute bestows. Long a leader in aeronautical designing and engineering, Mr. Frye has been a member of the Institute's advisory board since January, 1938, and before his election to a fellowship was an associate fellow.

He holds a transport pilot's license and has flown nearly 6,000 hours. His latest distinction was to devise, with Howard Hughes, the *Constellation*, built originally for TWA by Lockheed but being used by the Army for the duration.

TO F. T. Wood, appointed assistant to the vice president, Trans-Canada Air Lines, with headquarters at Winnipeg. Born in England, Wood was educated in Montreal and spent 15 years with the Grand Trunk and Canadian National railways prior to entering TCAL at its organization in 1937.

TO Irving H. Taylor, chosen by the economic development council of the Aeronautical Chamber of Commerce as chairman to succeed S. W. Voorhes, of Lockheed Aircraft Corp., resigned. Voorhes has been chairman of the economic development committee and

the council since their organization last year, while Taylor has been vice chairman.

James C. Willson, of Curtiss-Wright Corp., was nominated vice chairman, J. Story Smith, of Jacobs Aircraft Engine Co., deputy vice chairman.

TO Maj. Gen. Follett Bradley, U. S. Army, retired, formerly in command of the First Air Force at Mitchel Field, New York, and air inspector, headquarters Army Air Forces at Washington, who has been named assistant to the president of Sperry Gyroscope Co. A pioneer in aviation, he sent the first radio message from an airplane while participating in experimental flights in an early Wright biplane at Fort Riley, Kansas, in 1912.

Major General Follett Bradley

General Bradley, who was born in Fort Omaha, Neb., was graduated from the Naval Academy in 1910 and served in the Navy until 1912 when he was appointed a second lieutenant of Field Artillery in the regular Army and assigned to Fort Riley.

Learning to fly in 1916 at Mineola, Long Island, he was ordered overseas in August, 1917, where he served under the air commander, American Expeditionary Forces, with the rank of captain. Later he was assigned to the 17th Field Artillery and was cited for gallantry, receiving the Silver Star and the *Croix de Guerre*.

After various assignments he was promoted to major general and placed in command at Mitchel Field in March, 1942. In July, 1942, he was sent to Russia on a special mission by President Roosevelt, during which he received the Distinguished Flying Cross.

. . . TO American Export Airlines two oldest employes, Vice President James E. Eaton (center) and Passenger & Cargo Manager W. Sanger Green, here shown receiving pioneer emblems from Executive Vice President John E. Slater. Honored also last month were the crews of AEA's 1939 transatlantic survey flights.

TO Thomas Marshall Miller, named assistant to the director of research and planning by Chicago & Southern Air Lines with headquarters in Memphis. The director of research and planning has not yet been named.

Thomas M. Miller

Miller for the past 17 years has been associated with Dun and Bradstreet, Inc. in Houston, Fort Worth and Dallas, where he dealt with research, statistical and analytical reports. He was educated at Sealy, Texas, and graduated from the Houston Law School in 1925.

And to Henry George Howell, named as a member of the research and planning staff. He will act as a consultant in planning post-

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war routes in Mexico. He has flown as co-pilot with Serviceo Aereo Panini, is familiar with most of the airline routes in Mexico and speaks Spanish fluently.

TO Wilbur L. Morrison, 42-year-old veteran of air transport, just named vice president, Latin American division, to head a streamlined administrative unit recently created by Pan American Airways System to consolidate all its Latin American services.

Wilbur Morrison

As a further step in long-range plans for the centralized administration of interlocking and related services, Pan American consolidated into Latin American Division, with headquarters in Miami, operations previously carried out under an eastern division at Miami and a western division at Brownsville, Tex.

Under Morrison's jurisdiction is the largest organization of its kind in the world, nearly 9,000 employes and an air network of nearly 50,000 route miles. General Manager of Pan American's Mexican affiliate, Compania Mexicana de Aviacion, since 1935, and manager of the Western Division from 1942 until the merger, Morrison considers cargo flying his specialty and in this he is an expert.

TO Thomas J. Lozano, of New York, who has been named mail and express traffic representative for the New York district of Transcontinental & Western Air, Inc. Lozano will have headquarters in the Airlines Terminal Building, 80 East 42nd St.

Thomas J. Lozano

Lozano attended Columbia University and the Fordham School of Business Administration. Before joining TWA he was cargo manager for Isthmian Steamship Co. for seven years, and prior to that was employed by the National City Bank of New York.

TO Delos W. Rentzel, director of communications for American Airlines, who has been elected president of Aeronautical Radio Inc., non-profit organization owned by domestic airlines. One of his most notable achievements was the installation in November of four full-power directional radio ranges for American Airlines de Mexico, the first such equipment in Mexico. Rentzel joined the staff of American Airlines in 1931 as a radio operator in Atlanta.

TO H. C. Timberlake, statistician for the Federal Reserve Bank of Minneapolis since 1936 and a member of the bank staff for 21 years, who has been named to the newly-created position as economist for Northwest Airlines.

Timberlake will conduct business surveys for the airline as part of the broad research program in the company's plans for expansion after the war. Graduate of the University of Minnesota, he became manager of the industrial coordination department of the bank in 1940 and organized the first WPB office in Minneapolis in December 1941. He served as a pilot in the Army in World War I.

TO Thomas Burke, former chief of international communications, State Department, who has been elected vice president of American Export Airlines, to have charge of the company's international relations.

Thomas Burke

During 10 years of Government service, at first on the staff of the Secretary of Commerce, and since 1938 as State's communications chief, Burke has played a leading role in many important foreign assignments in aviation, shipping, and telecommunications. Most notable was his work as diplomatic liaison man with Army and Navy air forces in the quick establishment of the globe-girdling air routes now flown by the Army and Navy transport services.

Other of his significant contributions to the war effort include setting up the present direct radio-telegraph service to New Zealand and Australia, and direction of the work of driving Axis-dominated airlines and radio stations out of South America.

He was State Department delegate to the U. S.-Canada Aviation Conference at Ottawa in 1939. During 1941, he was named chairman of the U. S. National Commission of the Permanent American Aeronautical Commission. He also was a member of the U. S. Subcommittee on International Aviation.

He attended New York University Law School, Pulitzer School of Journalism, Trinity College, Dublin, and Bonn College, Germany, and spent several years in research work for newspapers. During 1917-19 he served overseas as an officer in the Rainbow Division, returning as a captain.

AIR SHIPPING
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NEW AIR EXPRESS SHIPPING ESTIMATOR
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in effect July 15, 1943. Savings up to 12½% over old rates — depending on weight of shipment and distance to be shipped. Same 3-mile-a-minute speed.
HOW TO USE THE SHIPPING ESTIMATOR
1. Find the approximate distance. Use map on other side to locate shipping and destination points, (or nearest airline cities to these points). Pull out sliding part of estimator and use proper scale (depending on direction in which shipment is being made) to determine approximate airline distance between airline cities.
2. Find the approximate hours. Directly under each mileage scale is another scale showing the approximate hours between airport cities. There are separate scales for Eastbound, Westbound and North or Southbound shipments. By referring to the proper scale you can determine the approximate air time for your shipment.
3. Find the approximate cost. Re-insert the slide and pull it to set the weight of your shipment in the top window. Read down to proper distance and you will find the approximate cost in the window opposite the distance.
WEIGHT in pounds 1
APPROXIMATE COST
DISTANCE in air miles
1.00 200
1.00 400
1.00 600
1.00 1000
1.00 1500
1.00 2000
1.00 2500
Total cost between addresses in airport cities; no extras.
"FASTEST WAY" MEANS AIR EXPRESS
AIR EXPRESS Gets there FIRST

New Air Express Shipping Estimator now being issued to shippers (actual size 6½ x 3½"). Operating on the slide rule principle, the estimator has been revised to meet recent rate reductions. It gives approximate charge for domestic shipments from 1 to 1000 lbs. for various distances. Copies may be obtained from Air Express Division, Railway Express Agency, 230 Park Ave., New York.

Rail Express Offers New Booklet to Aid In Air Cargo Packing

C. G. Peterson, no stranger to AIR TRANSPORTATION readers, has produced in his capacity as chief engineer of Railway Express Agency, Inc. a detailed study of the vital problems faced today in air cargo packaging and handling which is now being made available to all who can make use of it, while available copies last.

Illustrated with a host of charts and tables, the booklet reproduces material originally presented by Peterson to the Society of Automotive Engineers' air cargo conference. Copies may be obtained by writing the Express Agency's air express division at 230 Park Ave., New York 17, or AIR TRANSPORTATION.

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'No Spot on Earth . . .'

Consolidated Aircraft Corp. (later to become today's Consolidated Vultee Aircraft Corp.) had something better than it knew early last year when it launched its distinguished advertising campaign in newspapers and general magazines around the theme: *No spot on earth is more than 60 hours from your airport.*

Not often do advertising headlines imbed themselves so deeply in the public consciousness that people start quoting them, over and over, without realizing at all they are quoting. This is one of those rare exceptions.

In the august editorial pages of the New York *Times*, whose editorial writers are almost as likely to embrace Communism as they are to quote an advertisement, the phrase has appeared at least once in the past few weeks.

And, more recently, in the Jan. 27 address of the CAB's Acting Chairman Oswald F. Ryan to the inaugural luncheon of the New York Board of Trade's Aviation Section, it crops up again.

These tributes to a phrase of tremendous meaning—simple as it is—are all the greater because the people who quote seldom credit the source—may often not even know the source. That's why we think it's only fitting to give Consolidated and its able advertising agency, Young & Rubicam, a credit line right here.

Our International Express and Mail Tables, which many readers tell us they constantly use, are being revised. They'll be back, in their usual place in the *Air Shipping* section, next month.

We Salute the Admiral

Since starting AIR TRANSPORTATION 19 months ago we have had many pleasant experiences. None is more flattering than the communication we received from REAR ADMIRAL C. E. ROSENDAHL, USN, one of aviation's great, though not always remembered, fighters for progress.

ADMIRAL ROSENDAHL, long-famed as our greatest advocate of lighter-than-air craft for both Naval and transport use, commended us on our 1943 story, *When Air Cargo's Ship Comes In, It Could Be Lighter-than-Air,* by P. W. LITCHFIELD, and added:

> "As I have for many years, I still feel that the very large airship belongs in our long range oceanic field of transportation, and I hopefully look forward to the day when it will be so recognized. Such a story and such a publication as yours will help very considerably in getting this information to the proper people."

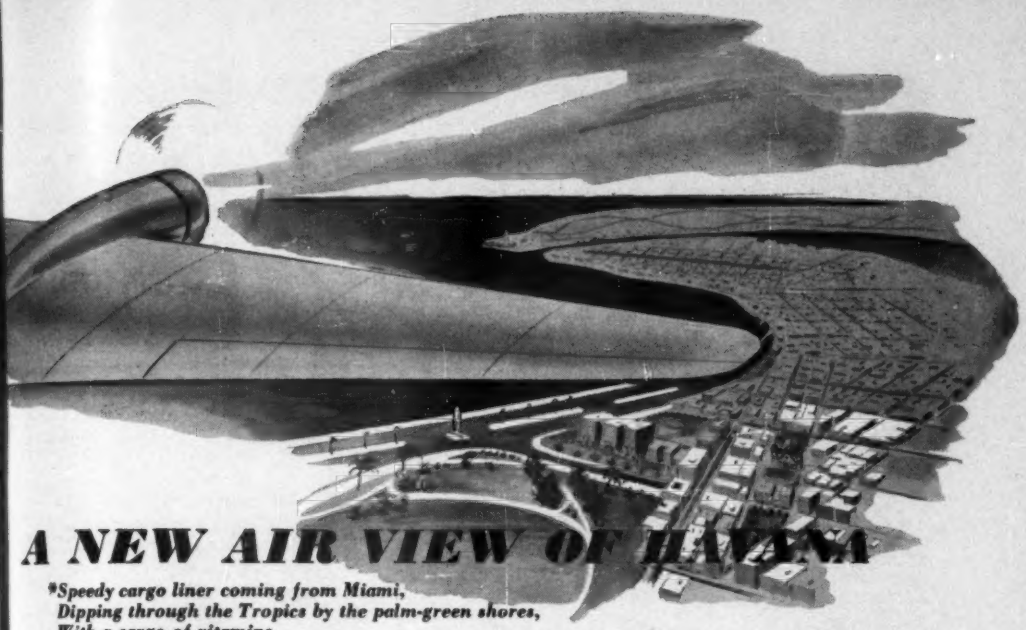
We add with considerable pride that the Naval Airship Training Command, at Lakehurst, N. J., headed by ADMIRAL ROSENDAHL, is a subscriber to AIR TRANSPORTATION.

What's Become of That Kaiser-Hughes Plane? Hughes Bet Is Answer

To doubting Thomases who've audibly wondered what had become of the Kaiser-Hughes cargoplane that was the talk of the air world almost a year ago, Howard Hughes has an answer, as reported this month by the New York *Herald Tribune.*

The reported Hughes answer is an offer to post $500,000 from his own pocket to guarantee that the superplane will fly before the end of 1944. Henry J. Kaiser himself is quoted as saying that Hughes also would reimburse the Government "every penny it is spending" should the plane crash. That, the *Herald Tribune* pointed out, raises Hughes' potential ante to a mere $18,000,000 or so.

The original schedule called for a plane in the air by May, and the third of the three Government-ordered HK-1's by next October.



A NEW AIR VIEW OF HAVANA

**Speedy cargo liner coming from Miami,*
Dipping through the Tropics by the palm-green shores,
With a cargo of vitamins,
X-Ray tubes, hosiery,
Magazines, news reels, and plain camp stores.

Back from Havana, Expreso Aereo Inter-Americano's exclusively cargo-carrying planes fly cigars, tobacco, fruits, vegetables, liquors, sponges—the wealth of Cuba . . . Cuba, the pearl of the Antilles.

THE 49th STATE

To the air-minded, Cuba is viewed as a part of the Union—our nearest off-shore neighbor. Through Havana flows the bulk of Cuba's extensive export and import trade—$200,000,000 worth in peacetime, far more today.

Expreso Aereo Inter-Americano, S. A., the independently owned Cuban airline, has fashioned a new link between Miami and Havana with daily flights across the Florida Straits—two hours each way.

Exporting and importing simplified—No wait for ships—No Consular Invoices—No Red Tape—No Priorities.

TWENTY CENTS PER POUND

The *overall* cost of express-air service to or from Havana is economical compared with any other route. Rates between Miami and Havana are 20¢ per pound (or 200 cubic inches), minimum charge $1.10 per shipment.

For example, $11.43 is the total charge on 40 pounds of drugs (value $250) from Chicago to Havana via Acme Overseas Express and Expreso Aereo Inter-Americano.

CONNECTIONS

Acme Overseas Express, representing the airline in the United States, provides direct rail express service to Miami from 58 Receiving Stations, and issues Joint Through Airwaybills.

The Acme Overseas Express Through Airwaybill is your "bill of lading" all the way to Havana. Complete transportation charges are on the one document (Straight or Order Notify).

Any means of transportation may be used to reach Miami for plane connection. Always consign southbound shipments to Acme Overseas Express, 400 S.W. First Avenue, Miami. Northbound shipments will be forwarded from Miami direct to consignee via Railway Express or any other medium designated.

THE PRACTICAL VIEW

Ship *today* the air-cargo way. No need to await postwar developments. Expreso Aereo planes are ready *now* to speed your shipments, large and small, heavy or light.

* With due respect to John Masefield for his poem "Cargoes."

Write for descriptive booklet

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